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The appliance of the concept of Sustainability in Human Resource Management in the Corporate Sector in Germany

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Abstract (English)

Decline of resources, increasing expectation of stakeholders and radical transparency imposed by new technologies urges multinational enterprises to define sustainability as an important driver, which affects Strategic- and Human Resource Management. An organization's corporate social performance becomes increasingly important in attracting highly educated applicants with a high level of job choice, often a source of competitive advantage in the human resource area.

This research investigates the usage of the concept of sustainability in Human Resource Management in Germany. Hypotheses were derived, an empirical content analysis was executed and 8745 job advertisements analyzed on sustainable patterns. Annual reports and sustainability reports of organizations were evaluated on defining sustainability related targets in their compensation management. Personal interviews with Human Resource Managers of global market leaders were executed regarding the influence of sustainability in Human Resource Management.

Although the Executives of companies state that sustainability plays a major role in Human Resource Management there is a gap in implementation. Sustainability concepts were found in less than one third of all job advertisements. A minority of the investigated companies formulates sustainability related targets in their compensation management. The interviews of the HR Managers confirm the high relevance of sustainability of Human Resource Management but points out the reason for the lack of implementation as a deficit of specified training and development.

In order to attract highly qualified employees there is a need pointing out ecological, social and sustainable efforts by the company. By doing so the gap between Human Resource Management and Sustainability could be bridged and the term of Sustainable Human Resource Management practically applied.

Keywords: *Sustainability, Human Resource Management, Recruitment, War for talent, Shortage of skills, Employer Branding, Corporate Social Responsibility, Sustainable Compensation, Food Sector*

Abstract (Spanish)

La disminución de los recursos, una mayor expectación de las partes interesadas y una transparencia radical impuesta por las nuevas tecnologías instan a las empresas multinacionales a definir la sostenibilidad como un factor importante, el cual afecta la gestión estratégica y de los recursos humanos. El rendimiento socio- empresarial de una organización es cada vez más importante para atraer candidatos con una excelente formación y un alto nivel de elección de empleo, lo cual suele ser una ventaja competitiva en los recursos humanos.

Este estudio investiga el uso del concepto de la sostenibilidad en la gestión de los recursos humanos en Alemania. Se han derivado un número de hipótesis, se ha realizado un análisis de contenido empírico y se han analizado 8 745 ofertas de empleo. Se han evaluado los informes anuales y de sostenibilidad para definir objetivos relacionados con la sostenibilidad en la gestión de la remuneración. Se han realizado entrevistas con gerentes de RR. HH. de empresas líder a nivel mundial sobre la influencia de la sostenibilidad en la gestión de recursos humanos.

A pesar de que los ejecutivos de varias empresas indiquen que la sostenibilidad juega un papel fundamental en la gestión de RR. HH., existe una brecha en su implementación. Se han encontrado conceptos de sostenibilidad en menos de un tercio de todas las ofertas de empleo. Una minoría de las empresas investigadas plantean objetivos relacionados con la sostenibilidad en su gestión de remuneración. Las entrevistas con los gerentes de RR. HH. confirman la gran importancia de la sostenibilidad en la gestión de recursos humanos pero señala como culpable de la falta de implementación un déficit en la formación y el desarrollo.

Para poder atraer empleados altamente cualificados las empresas deben resaltar sus iniciativas ecológicas, sociales y sostenibles. Al hacer esto la brecha entre la gestión de recursos humanos y la sostenibilidad podría desaparecer y así aplicarse el término Gestión de Recursos Humanos Sostenible.

Palabras clave: sostenibilidad, gestión de recursos humanos, contratación, guerra de talentos, escasez de cualificaciones, branding de empleador, responsabilidad social corporativa, compensación sostenible, sector alimenticio.

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1.1 Introduction

Companies committed to sustainability clearly outperformed the industry average during the financial crisis (A.T. Kearney, 2009). Thus, the most extensive chief executive study on corporate sustainability, which covers the opinion of nearly 1.000 CEOs, indicates that the commitment to environmental, social and governance issues remains strong with 93 % of the CEOs stating sustainability as critical to the success of the company (Kell & Lacy, 2010). Hence 80 % of Fortune Global 250 companies pledged themselves to disclose their sustainability performance (Apotheker, 2010).

In addition, the growing pressure from three major trends will force organizations to deal with sustainability (Lazlo & Zhexembayeva, 2011, p. 11). The decline of resources such as energy, metals, oil, water and minerals, in combination with the entire transformation of the ecosystem, will compel companies to act (Bardi, 2013, p.15). The increasing expectation level of customers, employees and investors and the radical transparency imposed by new technologies, media and nongovernmental organizations intensifies and sharpens the development (Lazlo & Zhexembayeva, 2011, p. 25).

Consequently, multinational enterprises have started to define sustainability as an important driver, which affects the core issues of Strategy Management and Human Resource Management (hereafter known as HRM) (WBCSD, 2005). The need for HRM involvement in sustainability initiatives is pointed out in recent academic literature (Ehnert, 2009; Jackson & Seo, 2010). Accordingly, companies are only able to succeed in the long term if they recruit and motivate people who are able to respond to and shape the ecological, economical and social challenges of the future (WBCSD, 2005).

Only when personal beliefs and needs are respected at work, employees are likely to commit and identify with the company. Thus, successful sustainability-related activities are not only the foundation for tackling ecological, economical and social future challenges but consequently also the basis for winning the war for talent (Bhattacharya, 2008). There are currently almost 600.000 overall job vacancies in Germany (Federal Employment Office, 2015). Instead of including all recruitment activities of all branches, which would be difficult to manage in terms of duplicates and time, the food sector is the main focus of the research. Therefore the research analysis of all online recruitment platforms for academic jobs in the food sector

in Germany should give an outlook and insight on the importance and usage of the concept of sustainability during the recruitment process. The need for sustainability-related activities is, especially in the food sector, of major importance since Germany has the highest turnover for sustainable bio-products in Europe and ranked second worldwide. There are 1.914 companies operating in the Food Sector in Germany with 559.776 employees (Federal Institute for Agriculture and Food, 2014).

If the usage of the concept of sustainability is crucial to win high-qualified employees, the status quo of the current recruiting activities in Germany has to be identified. Through the detection of gaps, specific implications can be developed on how to improve the usage of the concept of sustainability in the recruitment process.

1.2 Research Aims

Research Topic and Potential Title	The appliance of the concept of Sustainability in Human Resource Management in the Corporate Sector in Germany
Overall Field of Research	Explore • Importance of the usage of the concept of sustainability in the recruitment, compensation and human resource management
Subordinated Field of Research	Identify • The percentage of job advertisement applying to the concept • The occupational area where the approach is mostly applied • Hierarchical position with the highest sustainable requirements • Sub branch and time indicators featuring the concept • Companies with the highest reference to the idea • Reason for applying to the concept of sustainability
Interlinked Field of Research	• Relation of sustainability to other human resource fields such as compensation and benefit

Image 1: Overview of Research Fields (own image)

1.3   State of the Art

The term sustainability is widespread and has its roots in the Latin word "sustenere" which means "to maintain" or "to strengthen" and the suffix "able" refers to an ability (Ehnert, 2009, p. 116). The idea behind the concept is ancient and even Aristotle developed his concept of "household" on the basis of the ability to (re-) produce what was needed for a living and in this sense it was already self- sustaining to a certain extent (Nagle, 2006). The self-sustaining system has been translated into the maxim that resources or capital should be consumed less than what can be reproduced (Leal Filho, 2000). It indicates the balance of meeting the needs of the present without compromising the ability of future generations to satisfy their own needs (Brundtland Commision, 1987).

The three pillars of the triple bottom line being people, planet and profit differentiate this complex topic into social, environmental and economic factors (Elkington, 1998, p. 91). The approach is based on the concept that all three elements are of equal importance and need to be integrated into a win-win-win situation of the overlapping pillars (Leal Filho, 2000). This assumption is widely accepted at an abstract level, however, as soon as the firm's operational level is addressed, the economic dimensions of the concept become dominant and tensions occur (Hahn et al, 2010).

Defining sustainability for the business context is challenging as companies do not possess the same rationalities or logics like societies do and thus, leading to obstacles in integrating the economic, ecological and social dimension (Bansal, 2005). While economic systems, such as companies and organizations, traditionally follow economic rationalities, focusing on effi-ciency and effectiveness, social societies may follow more ethical and value-based rationali-ties such as social and ecological responsibilities (Salzmann et al., 2005). An interesting viewpoint on the relationship among sustainability dimensions has argued that the ecological pillar is in fact the limiting component and therefore needs to be defined as the circle and the societal and economic circles need to be placed into the big ecological circle. This picture with three circles, one being in the centre of the other, obviously emphasizes that we can only do business within these ecological boundaries, if we wish to survive and keep our current standard of living (Gladwin & Kennelly, 1995).

Hence, the key question in sustainability research includes how and why organizations would engage in sustainable development and sustainable behaviour (Hahn & Figge, 2011). Business behaviour following the traditional economic rationale has been massively criticized in literature on corporate sustainability but also by mainstream management journals (Porter & Kramer, 2011). Business organizations themselves have provided reasons such as long-term business success, value creation, reduction of costs by reducing consumption of resources and energy, performance, creating accountability and transparency, and improving the quality of life for employees and societies (Ehnert, 2009). This reflects the holistic view of strong sustainability in which economy, society and environment are not conceptualized as separate entities.

The "strong" perspective places emphasis on society and environment and the recognition is made that the economy relies on these two dimensions not only for its specific success but for its existence by acknowledging limitations (Harris & Tregidga, 2012). The 'weak' sustainability sees the three elements as related but fundamentally separate entities. Trade-offs have to be made where the advancement of one component will occur at the expense of the other components (Harris & Tregidga, 2012). In fact, achieving the goal of an integrated economic, social and environmental sustainability requires to move from 'a heads down' focus on functional efficiency, where the concentration is so heavy that everything outside the focus is missed, to an incorporate heads-up collaboration on organizational effectiveness and sustainability (Dubois & Dubois, 2012).

However, several international authors have asserted that sustainability is more than a concept for economical or environmental management and that it can be more than a social and ethical idea (Ehnert, 2009; Jackson & Seo, 2010). It is the vein to a holistic concept of "human sustainability" which emerged to be relevant for individuals and organizations. Therefore, the concept can be used on multiple levels, for all dimensions which are of importance, for organizations, sub-systems including HRM and for individuals (Pfeffer, 1994).

In the following section the complex interplay between economic, social, environmental and human sustainability will be the focus.
Historically sustainability emerged in situations of crises, when at least one of the following component turned out to be of importance, when economic, natural or social resources were

scarce or side and feedback effects threatened long-term exploitation of these resources (Eh-nert, 2009, p. 5).

These challenges can also be found in HRM in forms of lack of human resources, skilled labour shortage, and side and feedback effects. Analogous to the depletion of natural resources, companies find themselves confronted with a shortage of competent and committed people and with side and feedback effects of work and business activities on employees and companies themselves (Ehnert, 2009, p. 11).

The relevance of HRM in developing sustainable and responsible companies has been overlooked for a long time (Cohen & Mueller-Camen, 2012). Boudreau and Ramstad underline that `HR has an important role to play in sustainability` (2005, p. 134). Evidence is therefore indicated by major consultancy surveys. In a report in "Managing tomorrow's people" PriceWaterhouseCoopers (PWC) have published a strong focus on sustainability, green management and social responsibility as one of the main targets for the future of work and for attracting the upcoming generation. Emphasizing the importance of HRM, PWC recommends a transparent and robust corporate HRM strategy linked with the employee engagement and the organization's people strategy (PriceWaterhouseCoopers, 2009). The professional services consultancy KPMG points out the importance of HRM for sustainable development of organizations in showing that financial corporate reporting no longer is a stand-alone function. It has its roots in data strongly related to the core of HRM, such as employee participation in human resource development practices, number of absent and sick employees or turnover rates (KMPG, 2011).

By searching for the roots of the core HRM activities and the understanding of it, it appears that the term HRM is variably and inconsistently used, which makes a common definition very difficult. Different literature defines the HR practices and pillars as training (Bartel, 1994), circulation and sharing of information (Morishima, 1991), development and job transformation (Pfeffer, 1994, p. 29), and recruitment and selection of new employees (Terpstra & Rozell, 1993). As strategic roles, played by HRM, expanded rapidly literature on strategic HRM grew very fast as well. It broadens the scope of HR practices adding the role of best practices (Pfeffer, 1994, p. 38), organizational strategy (Lengnick-Hall & Lengnick- Hall, 1988), the environment in which the organization functions (Schuler & Jackson, 1995),

cultural context (Brewster & Bournois, 1991) and the global environment and stakeholder satisfaction (Schuler & Jackson, 2005). The aim is to emphasize the role of design in creating HRM systems that can support and guide the implementation of sustainability processes throughout the organization (Dubois & Dubois, 2012).

There is a need to expand the traditional fields of HRM, as explained above, by long-term oriented conceptual approaches and activities aiming for a socially responsible and economically appropriate recruitment and selection, development, deployment and downsizing of employees (Thom et al., 2001, p. 11). It is a crucial basis for what companies themselves have to do in their environments in order to obtain durable access to skilled human resources (Ehnert, 2009, p. 74). Ehnert has attempted to search for a broader understanding of HRM and at the same time rooting it in the traditional HRM discipline. This strategy enables organizational goal achievement while simultaneously reproducing the HR base over a long-lasting time and controlling self-induced side and feedback effects of HR systems and HR base, thus, actively contributing to the company's architecture (Ehnert, 2009, p. 79). The focus is to make HRM systems themselves sustainable. In the following section the key areas on SHRM and the transformation of the traditional HRM will be explored.

The term SHRM indicates a broad, encompassing perspective which is relevant at multiple levels of analysis (effects on individuals, HRM, organization and society), that multiple dimensions need to be considered (economic, ecological, social, human) and that dynamics over time (short- and long-term effects) need consideration since there are interrelations and effects between the layers and dimensions (Ehnert et al., 2014, p. 20).

Main Pillars of the framework of SHRM consider the elements of human and social capital e.g. skills, knowledge, health, motivation, participation and identification (Docherty et al., 2009, p. 3). Furthermore the framework reflects on altered basic conditions in different parts of the world such as demographic changes, globalization and permanent change as a normal state. Another major element is that it contains soft facts like leadership style, trustworthiness and corporate culture (Ehnert et al., 2014, p. 46). In addition, it includes the impacts on society because people who operate sustainably are able to prioritize and work toward ecological and environmental sustainability (Docherty et al., 2009, p. 5).

Especially the component of embedding environmental sustainability into an organization requires different thinking and behaviour of all employees at all hierarchy and organizational levels (Lazlo & Zhexembayeva, 2011). Successful changes in environmental sustainability require the presence of HRM in the organization's executive leadership team serving as design architects for many HRM systems, policies and practices. These are necessary in order to prepare employees to engage and contribute meaningfully to accomplish specific environmental sustainability targets (Dubois & Dubois, 2012).

An expansion from a traditional (Carrig, 1997) to a transformational HRM can consistently align, clarify and support organizational environmental sustainability goals, creating a strong situation that induces consensus and conformity among employees to adjust their actions to organizational goals (Bowen & Ostroff, 2005). The following illustration visualizes the complex pillars of sustainable and transformational HRM.

Organizational Context

Insufficient Natural Resources   Increasing Expectations   Radical Transparency

Organizational Social Ecology

Organizational Environment		**Human Resource Management**		
Leadership			Policies/Systems	Implementation
-Vision		**Transformational HRM**	Leadership	Leadership Development
-Values				
Cooperative Business Strategy			HRM Strategy	HRM Systems Architecture Development
Organizational Culture			Organizational Culture	Innovation & Engagement
Organizational Structure		**Traditional HRM**	Organizational Talent Management	**Recruitment** Development
Reporting				Appraisal

Image 2: Contextual Model of Sustainable Human Resource Management (own image)
Source: (Dubois & Dubois 2012)

At the top of the chart there are the three context drivers, which pressure organizations and are listed as insufficient natural resources, increasing pressure from stakeholder groups and radical transparency. The first component addresses for example the effects from climate change-related clean water shortage (UNESCO, 2011), energy supply challenges and the wrong usage of natural resources such as air, forests, species, food and soil (Yap, 2011). The second factor lists the four major stakeholder groups such as regulators, investors, employees and consumers. Organizations are politically forced to enact modifications to meet compliance levels (Lubber, 2011) and research indicates that the majority of workers prefer to work for an environmentally sustainable company (Corporate Express, 2007). The last indicator is radical transparency, represented by nongovernmental organizations such as WWF, Worldwatch Institute and other whistleblowers making it increasingly difficult to carry out environmental degradation in secret (Dubois & Dubois, 2012).

The two-way arrow in the middle between the two boxes describes a potentially synergistic relationship in which the organizational environment and the HRM function cooperate to facilitate or impede the embedding of environmental sustainability within an organization (Dubois & Dubois, 2012). Transformational HRM include activities which address the holistic organizational system like development and providing HRM leadership. A key HRM competence comes from a credible activist who steps forward and is positioned as a strategic player in the organization (Ulrich et al, 2008, p. 21). Employees are more likely to initiate environmental innovation if they perceive supervisory support. This shows that daily communication of managers and supervisors significantly impacts employee thinking, motivation and behaviour (Ramus & Steger, 2000).

An alignment of consistent HRM systems and organizational strategy contributes to organizational performance, which employees can influence by offering their convictions and capacity to help, shape and exploit the entire range of capacity (Wrigth et al., 2005). This is a reflection of SHRM models with a reciprocal relationship between organizational strategy and HRM strategy (Ehnert, 2009, p. 124).

HRM functions have to act as key roles in marshalling environmental sustainability-related organizational culture changes by executing training sessions, inducting commitment to chan-

ge through congruence between organizational mission and organizational change (Poole, 2004, p. 31). Additionally, organizational development processes, in which employees have an opportunity to express their sustainability-ideas and concerns, lead to a feeling of inclusion accomplishing related goals and values (Cooperrider & Whitney, 2005, p. 34). Hence, HRM initiatives providing education trainings, creating habitat teams and rewarding employees with awards for efforts regarding environmental sustainability, can strengthen and accelerate the positive effects of SHRM (Fairmount Minerals, 2008).

Communication flows streaming upwards rooted in employees' ideas (Cramer & Karabell, 2010, p. 84), the support of inter-functional teamwork, the presence of norms that encourage people's ability to change, the avoidance of top-down leadership and the vertical communication and informal processes of decision making regarding innovation (Boonstra & Vink, 1996) are another main component of SHRM. In addition to that the state of the art HRM functions ensuring HR planning processes that consider organizational human capital needs for the organizational as a whole (Jackson & Seo, 2010) are another pillars. Not all of these components need to be implemented and executed at the same time. An organization can choose a partial approach that bolts on one or more pieces, which allows a more convenient entry into the sustainability arena (Dubois & Dubois, 2012).

1.4 Hypotheses

1.4.1 Hypothesis 1

Based on the "State of the Art" hypotheses were derived to investigate the current usage of the concept of sustainability in HRM.

An environmental SHRM strategy can be a helpful asset in the recruitment process of new employees. Publishing and spreading information about sustainability focus during recruiting can attract high quality recruits and young professionals (Albinger & Freeman, 2000). Presupposing that all companies execute this knowledge, the H1.1. states that majority of all job advertisements feature information about the companies' sustainability focus. In addition SHRM helps professionals to carefully consider the talent needs, identify competencies currently lacking in the organization's talent pool that could spur innovation and initiative, and establish a talent pool that possesses required capabilities to support sustainability-related changes in the organization's work (Boudreau & Ramstad, 2005). Hence, it is crucial to ensure that managerial key roles are staffed with top candidates (Dubois & Dubois, 2012). Consequently, the H1.2. reflects that management roles tend to relate to sustainability more than non-managerial roles. Further it seems recommendable to identify critical positions in implementing the environmental strategy such as technical positions or HR positions with transformational tasks and sustainable responsibilities (Dubois & Dubois, 2012). Furthermore, the meaningfulness at work is an especially important component which correspondents to an individual's identity and has implications for personal engagement and consequently for the overall performance of the system. The contribution to the environmental aims of an organization can create meaningfulness and a "good feeling" (McWilliams & Siegel, 2001). SHRM therefore enables a firm to embed a sustainability mindset in employees, evoking a positive impact on shareholder interests through increasing the social legitimacy of the firm, the ability to recruit, and through retaining quality employees as well as boosting customer loyalty (Ehnert et al., 2014). A broad customer survey states the following ones as the top three sustainable branches: the automotive sector, the baby food industry and home appliances. The telecommunication sector, energy services and the fast food industry were ranked as the most unsustainable branches, by contrast (Wirtschaftswoche, 2013). The H1.3. claims that some branches are more related to sustainability than others.

1.4.2 Hypothesis 2

The need for sustainability-related activities is especially in the food sector in Germany of major importance since the country has the highest turnover for sustainable bio-products in Europe as well as has ranked second globally (Federal Institute for Agriculture and Food, 2014). Based on the model of sustainable HR management, the question arises:

"To what extent is the concept of sustainability currently applied in personnel management in the food sector, and in what form can it be optimized to ensure the long-term supply of qualified, motivated and sustainably oriented employees?" Qualified entry-level employees and experienced specialists are particularly attracted to "green" employers (Bhattacharya, 2008). Due to the high demand of bio certified products in Germany the hypothesis H2 arises that the branch applies to the concept of sustainability in a congruent way. Functional and managerial differences are investigated on the basis of H1.2. and H1.3.

1.4.3 Hypothesis 3

From a financial perspective the advantages of SHRM based upon the approach raise revenue and profit, and drive growth through innovation, illustrating that the tradeoffs between sustainable products and financial costs are a wrong choice; one that fails to see how the pursuit of sustainability can lower costs massively (Nidumolu, 2013). It is also proven that it is a way to contain payroll costs and increase employee productivity (Dubois & Dubois, 2012). Therefore, another major field of Human Resource Management: The compensation management, is focused on. The primary aim of compensation management is to regulate the equal weighting between the performance of each employee and the material consideration of the employer. The combined term "sustainable compensation management" describes the linking of the remuneration determination to various corporate processes, which allows external factors to influence the development of salaries. A study conducted with 2100 MBA students points out that more than a half of the students respondents indicated to accept a lower salary to work for a socially responsible company that navigates in direction to social components of sustainability (Dolan, 2002). H3 states that companies commit to the concept of sustainability in their compensation management.

1.4.4 Hypothesis 4

Another argument of SHRM is the replacement of costly employer branding activities and costly printed materials with technology, providing electronic records and attracting technology and sustainability-savvy recruits (Dubois & Dubois, 2012). The usage of sustainability-related terms also contributes to an "organizational branding" of the company (Wirtenberg et al., 2007). H4 states that the Human Resource Managers will be aware of the Employer Branding effect of sustainability and integrate it their HRM strategy.

Indicators	Hypothesis (H)
Usage of the concept of sustainability	The majority of all job advertisements spread and feature information about their sustainability focus (H1.1.).
Hierarchy	Management roles tend to relate to sustainability more than non-managerial roles (H1.2.).
Occupational Area	Technical roles or HRM related positions exhibit sustainability patterns (H1.3.).
Branch	Sustainability-related content is applied recruitment process in the food sector (H2).
Compensation & Benefit	Companies commit to the concept of sustainability in their compensation management (H3).
HRM Strategy	Human Resource Manager will be aware of the Employer Branding effect of sustainability and integrate in their HRM strategy (H4).

Image 3: Overview of Hypothesis (own image)

1.5   Outline of the Research

This doctorial thesis begins with defining the major drivers for sustainable Human Resource Management. The introduction links the two topics of HRM and sustainability and points out their interrelation. The aims of the research refer to the usage of the concept of sustainability in the HRM process of companies in Germany.

On the basis of the State of The Art hypotheses were derived regarding the appliance of the concept of sustainability in HRM. The following chapter is differentiated into five published papers that were released in scientific journals. The first sub-point of the chapter is divided into two papers analyzing the usage of sustainable indicators in job descriptions in Germany through a content analysis. The main difference between these two papers is the methodological refined procedure of the second paper.

The second sub-point of the chapter focuses on the branch of the food industry and analyses all job descriptions that were published in the sector over a defined period of time regarding sustainable patterns.
The third part of the chapter investigates the relation between sustainability and compensation management; Annual reports and sustainability reports of organizations were evaluated on defining sustainability related targets in their compensation management.

The last published paper researches in personal interviews with Human Resource Managers of global market leaders of the food sector regarding the influence of sustainability in HRM.
The conclusion part that follows the five papers, summarizes the overall main findings of the investigations. Limitations and bias of the research are pointed out in the critical assessment, which leads to and defines the guideline for possible future research.

2   Methodology and Research Design

The scientific tool for the research of the various job descriptions for hypothesis 1 and 2 will be based on a content analysis. The content analysis is a research technique for making replicable and valid inferences from texts or other meaningful matter to the contexts of their use (Krippendorf, 2013, p. 21). It involves specialized procedures and provides new insights, increases a researcher's understanding of a phenomena or informs practical actions. Every content analysis requires a context within which the available texts are examined. The analyst must construct a model in which the texts make sense and can answer the analyst's research questions (Krippendorf, 2013, p. 29). The starting point of the research process is the question, which focuses on "how companies in the food sector in Germany use the concept of sustainability in their recruitment process" in this case. By merely sharpening the defined research question, the content analysis can deliver the answer to the question. The question is applied rather than probing around a mass of topics in the hope that a bright idea will be suggested (Robson, 2002, p. 353).

The second step is to decide on the sampling strategies and to reduce the task to manageable dimensions (Mayring, 2010, p. 48). Instead of including all job advertisements posted in Germany (or any other country), which would be difficult to manage in terms of duplicates and time, a specific random sample will be used for Hypothesis 2 and all job descriptions in the food sector are the subject of focus for hypothesis 2. The next stage is the definition of the recording unit and the most commonly used unit is the individual word (Robson, 2002, p. 353). Based on the above-explained triple bottom line concept, the terms "sustainable", "environment" and "social" are the defined recording units.

The next part of the analysis defines the position of the terms within the job advertisement as the record unit. The following step is to construct categories for the analysis, which is one of the most crucial components. Everything of importance and relevance to the study can be categorized and has to be exhaustive, mutually exclusive and operationalized, that means explicit specifications have to be made of what indicators are looking for when making any of the categorizations (Robson, 2002, p. 355). The main indicators can be defined as the occupational area of the job advertisement, branches within the food sector and management responsibilities.

The evaluations for detecting hypothesis 3 are based on the annual sustainability reports published by the Dax 30 companies for 2016. Here, reporting in particular was examined with regard to the interactions between remuneration and sustainability. The Dax target group was deliberately chosen because the German Stock Corporation Act and additional provisions in the German Commercial Code oblige listed companies to make the remuneration report transparent for the Executive Board and Supervisory Board. All data used are publicly accessible and are therefore not based on random sampling or surveys, but correspond to official corporate communication. The evaluation method is based on a quantitative content analysis that uses the relevant guidelines from the G4 Global Reporting Initiative as an evaluation benchmark for the evaluation of reporting. Four out of five of the selected criteria are based on a quantitative content analysis. The performance criteria and objectives in connection with "stakeholder goals" were evaluated on a qualitative basis. For detecting hypothesis 4. another essential part of the data collection is to identify the reasons and motivation for the usage of the concept of sustainability in the recruitment process of companies. The targets behind the usage, the awareness of the application, the favored responses and the aimed effects in general can be identified by a questionnaire method.

The scientific questionnaire method is a systematic, target-oriented and standardized generation of verbal and numerical assessment of selected respondents regarding chosen aspects of their behavior and experience.

For this purpose the main instrument is a research questionnaire, which was executed by a face-to-face situation. The answers will be documented and systematically evaluated.
Since questionnaire and feedback requests became common it is important to differentiate a scientific questionnaire from an ordinary survey. The research approach follows consequently scientific rules with the target to generalize responses in order to induce deductions.

The scientific questionnaire will based on the following classification criteria:

.   *1) Level of structuring and standardization*
    There are three different options regarding the concept of the questionnaire: entirely standardized, partly standardized and non-standardized (Bortz & Döring, 2015, p. 413). A qualitative questionnaire in which not all part of the questionnaires are closed questions gives the respondents the option to answer in a more elaborate way. For this

purpose, a quantitative questionnaire with sole closed question is neglected and a qualitative questionnaire favored.

. *2) Questionnaire Mode / Interviews*

In order to execute the interviews a specific amount of corporate representatives will be recruited and interviewed. Even though the barrier to fix an appointment for an interview is high, the focus is to identify HR Managers from the food sector to interview them in a face to face situation.

. *3) Focus of Individuals or Groups*

Commonly the questionnaires are answered individually and refer to the experience and opinion of an individual. This research focuses on the experience of HR Managers representing their organizations.

. *4) Formulation of Questions*

The formulation of the questions will be in a direct and simplified way, using economic terminology, which suits to the background of the interviewees. The focus will be on open questions, that gives the option for explanations and extended information. The application of closed questions are limited and only used to filter responses.

By combining the systematic analysis method of a content analysis consisting of crucial qualitative and quantitative elements with the scientific questionnaire method for verifying the results, it will be possible to identify specific sustainable branches within the food sector as well as the reasons and motivation for the usage of the concept of sustainability. This could be the foundation for third parties and companies to execute benchmarking processes and serve as orientation indicators to implement sustainable HR recruiting strategies.

3 Contributions to the Literature

3.1 The Concept of Sustainability in HRM

The following chapter investigates the role of the concept of sustainability as a model for personnel management in the context of recruiting employees.

The concept of sustainability is regarded as a guiding principle for a sustainable and lasting development, which can be achieved with equal consideration of economic, ecological and social aspects. This mission statement is playing an increasingly important role for companies, which can only be derived from the fact that almost every company in Germany now publishes a sustainability report. This is due on the one hand to the pressure of external groups such as e.g. NGOs, but also because investors are increasingly interested in a company's „Corporate Social Responsibility".

Sustainable human resources management

„Sustainable human resources management is understood in particular as those thinking and action approaches which aim at the long-term, socially responsible and economically appropriate recruitment, development, retention and release of employees." (Zaug et al., 2001, p 1). Thus, in development and implementation of sustainable business models, personnel management plays a key role (Wirtenberg et al., 2007, p. 8). The key points and relevant activities of sustainable human resources can be defined in three overarching goals. These include orientation towards sustainable values and the reminding and supporting function of HR management together with the Management Board. Essential here is to ensure that sustainability is a key component in the development of corporate strategies.

In addition to a holistic and cross-company approach, the implementation of processes and corporate structures that simplify sustainably shaped goals in operational implementation are additionally important and also integrate various interest groups (e.g. process for defining complementary goals, such as the reduction of production waste, which has an impact on financially relevant ones), engineering and production-specific departments, and at the same time includes various stakeholders: such as the creditor, the state or even environmentally conscious customers, as a core sustainability concept in HR (Wirtenberg et al., 2007). In this context the presence of human resources management in the awareness and preparation of

employees for environmental, economic and social changes is very important (Dubois / Dubois, 2012).

Sustainable thinking and action approaches are hardly adequately investigated in human resources management today, nor are they widely used. In many cases, sustainable human resources management refers to the focus of HR work on longterm goals. However, if HR management sees itself as a strategic partner to the company management and management, rather than having solely an administrative function, it must react to changes in external framework conditions (Weissenrieder, 2010, S. 11).

This broader understanding also implies the longterm orientation of human resources work in order to meet the expectations of all internal stakeholder groups (e.g., employees, owners) and external stakeholders (e.g., customers, society) of the company. Figure 1 shows the importance of HR management for the implementation of sustainable goals from different perspectives. Organizationally sustainable changes have their beginnings in the development of sustainable visions and strategies, which have their origin in a changed thinking and working process. The changed attitude is primarily induced by classical personnel work such as training, talent management and organizational development (Dubois / Dubois, 2012).

The central position of HR management is the only discipline that can influence all organizational areas and employees. This centrality can secure internal and external sustainability structures by promoting and coordinating employee engagement, in particular to promote external discussion and resolve external blockages with stakeholders. Thus, the scope of human resource management extends both vertically in the strategic direction of the company, and horizontally across all departments and functions.

In this way, holistic development processes can be implemented, which are secured in particular by the recruitment of well-trained and sustainability-sensitized specialists and executives (Dubois / Dubois, 2012). Therefore, the task of HR management is to support the management in achieving sustainable goals and to align the HR-tasks with sustainable aspects. It is therefore important to consider accordingly the areas of personnel marketing and selection, personnel and employee retention, performance management and remuneration,

personnel and management development as well as personnel layoffs. The long-term socially responsible and at the same time economic recruitment, development, retention and release of employees will be the central challenge of future HR management (Lazlo / Zhexembayeva, 2011).

The scarcity of resources, the increased level of expectation and the desire for transparency among customers, employees and investors are increasing the need for companies to tackle sustainability issues. The wish list of the courted "Young Professionals" extends to the requirement of an ecologically, economically and socially sustainable orientation of the companies. A lack of sustained efforts on the part of companies not only deters new employees, but also reinforces the motivation of current employees to switch jobs (Pricewaterhouse Coopers, 2009). Skilled job starters, as well as experienced professionals, are particularly attracted by "green" employers (Bhattacharya, 2008).

These were the initial considerations of the study on the implementation of sustainability in recruitment as one of the core instruments of human resource management. Based on the 3-pillar model (Elkington, 1998, p. 91) of sustainable HR management, the study raises the following questions:

▸ What role does the concept of sustainability play in human resource management in the recruitment process?
▸ Are there any differences in the meaning of the concept of sustainability in the individual functions and sectors?
▸ Which aspects of sustainability are communicated in the recruitment process?

The following assumptions were examined:

▸ Assumption 1: Companies communicate their diverse activities in sustainability management, for example on the company website and in sustainability reports (Glausch, 2017, p. 396 ff.). The keywords (sustainable, social, ecological / environmental) should be reflected in job advertisements as a single word or part of a word.
▸ Assumption 2: The sustainable orientation of a company is considered beneficial in recruiting skilled workers and executives, as environmentally and socially sustainable corporate aspirations are particularly attractive and attractive to well-educated workers

(Albinger / Freeman, 2000). Therefore, it can be assumed that job descriptions refer to the sustainability of a company.

▸ Assumption 3: Industries differ in terms of the importance and implementation of the concept of sustainability, as manufacturing companies in particular are attributed greater importance to sustainable endeavors (Berrone / Gomzes-Meijia, 2009). Therefore, sector-specific differences in the use of the sustainability concept should be demonstrated.

▸ Assumption 4: Individual job roles in human resource management and / or technical functions are given a stronger affinity in the implementation of the sustainability concept, since they can exert a cross-company influence on all other functions (Dubois / Dubois, 2012). Therefore, functional differences in sustainable job descriptions should be recognized.

The aspects of sustainable management are diverse and range from the promotion of sustainable product development to the appreciation or promotion of voluntary work (Clement et al., 2014, p. 24). Therefore, it should also be examined which topics and aspects towards sustainability companies are communicating when recruiting employees.
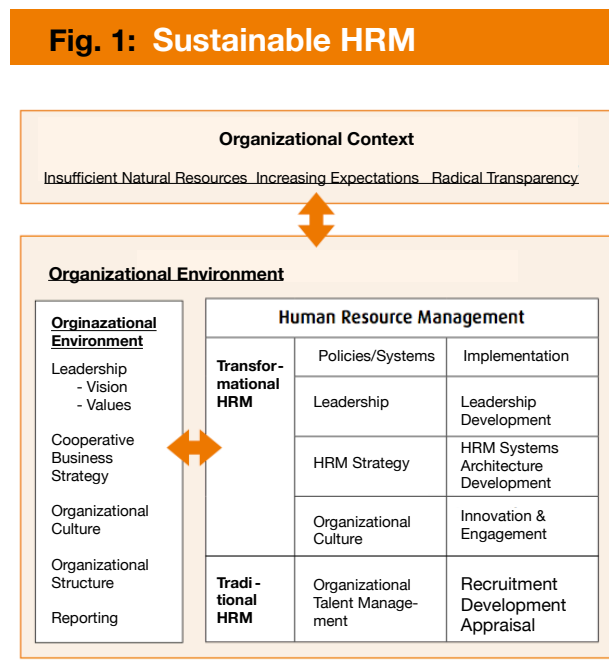
Image 4: Model of Sustainable Human Resource Management (own image)
Source: (Dubois & Dubois, 2012)

Approach and methodology

The empirical study was carried out on the basis of a quantitative content analysis of job advertisements (see also Krippendorf, 2013; Mayring, 2010).

Derived from the question and based on the theoretical approach of sustainability according to the 3-pillar model (Elkington, 1998, p. 91), the three categories (1) general and economic sustainability, (2) social sustainability and (3) defined ecological sustainability. A previous survey in November 2014 showed that just under a quarter of job advertisements had sustainable aspects in terms of the 3-pillar model. It should now be examined to what extent these key terms (sustainable, social, ecological / environmental) actually represent an indication of the implementation of the sustainability concept in personnel recruiting. Within three working days in November 2015, just over 57,000 job offers from a leading job portal in Germany were selected according to the terms "environment", "social" and "sustainable". This pre-selection should ensure a sufficient number of job advertisements with sustainability aspects for further content analysis. In this way, 9,600 ads were identified that had at least one of the three terms. As part of a targeted sample of 600 job advertisements, a random sample (k = K / n, 9600/600 = 16) was used to draw the sample. Due to constant changes in the job advertisements in the portal in the period of data collection, a final sample of 609 resulted. These ads were incorporated into the data analysis software MAXQDA.

Composition of the sample

Afterwards, all 609 advertisements were independently worked through by the authors and examined to what extent the key terms "environment", "social" and "sustainable" in the context of the advertisement actually referred to the concept of sustainability. It was found that a number of ads showed a different context of conceptual usage. In addition to the three key words, an in-depth search of these key terms was carried out using a keyword index using the lexical search in MAXQDA. The keyword catalog was generated by a non-representative evaluation of CSR reports and websites of German DAX companies.

Therefore, assumption 1 that the key terms (sustainable, social, ecological / environmental) can be found as a single word or part of a word in job advertisements and thus can be used as an indicator that the implementation of the 3-pillar model is not correct. At the same time, new aspects were identified and subdivided into categories. Subsequently, in a feedback loop, the results were checked and compared, and incongruences were identified, discussed and

converted into coding rules (Mayring, 2010, p. 59 ff.). The developed subcategories were grouped and quantified into main categories. All entries were only counted once in the sub-code, double counting in the top code is possible (example: the entry in the sub-code "Equal opportunity" and a further entry in the sub-code "Further education" led to two codes in the top code „social").

Fig. 2: Subject heading catalog for preliminary research		
Sustainability / Economic	Sustainability / Environment	Sustainability / Social
• Anti-Corruption • Consumer protection • New business models (sharing economy) • Sustainable production and consumption • Assessment of monetary performance / Social Responsible Investment • Sustainable / cause-related marketing • Sustainable value chain / Supply Chain Management • Product Responsibility / obsolescence / return systems	• Ecological Footprint • Avoidance / reduction of emissions, wastes, toxic substances • Recycling • Energy efficiency • Energy saving • Eco-efficiency • Wastewater industry • Renewable energy • Mobility behavior • Cradle-to-Cradle / Eco-Effectiveness / Circular Economy • Biodiversity	• Responsibility for employees and society • Cultural diversity • Well-being at the workplace • Health and safety • Work-life balance • Demographic change • Qualification, general and professional development • Stakeholder dialogue / cooperation with companies, institutions, schools and universities • Human Rights

Source: Own Graphic

Image 5: Sustainability Indicators for Preliminary Research (own image)

Results of the investigation

In the sample, 240 of the 609 (39.4%) job ads confirmed that the ads were based on the 3-pillar sustainability model. The 95% confidence interval covers the range between 35% and 43%. In 369 (60.6%) job advertisements, the terms (sustainable, social, ecological / environmental) were used in a different context. Examples of non-considered aspects are: the use of the word or part of the word „long-lasting" as synonymous for "Long term" or "sustained" effective. These were excluded from counting under the coding rules. Assumption 2 can only be partially confirmed, as a majority of job advertisements do not reveal any sustainability aspects in terms of the 3-pillar model.

Social aspects dominate

At 32.3%, the largest proportion of all advertisements refers to the Keyword "social". If one examines in more detail which sustainable aspects the job advertisements refer to under the term "social", one finds 162 (out of 197) "social" advertisements revolving around personnel development and further education. Minimizing pressure on employees' health and quality of life, compensating for social inequality (equal opportunities), flexible working hours, reconciling work and private life, and allowing enough time for family and social interaction are other aspects that are important, albeit to a lesser extent, were named. No reference to training or education on sustainability was found in any ad. Other aspects that are not addressed include, for example, demographic change, i.e. opportunities for older employees, the possibility or appreciation of voluntary work or dialogue with stakeholder groups.

In the distribution of the top codes, which point to sustainability, 3.6% (22 ads) refer to the ecological dimension. In terms of content, topics such as compliance with environmental standards and measures to strengthen environmental protection predominate. Likewise, aspects of logistics and technology are in the foreground. Aspects that are not addressed include, for example, environmental product development, consumer information / education or the environ-mental footprint of a company or its products.

Another 3.4% (21 ads) are assigned to the general term "sustainability" or "sustainable". Here, mentions refer to the balance between purely economic interests and preservation of the system. In general, there is a desire for sustained commitment and a sustainable orientation.

Fig. 3: Frequency and distribution of the codes

	quantum	allotmen
Job Description with min. Code	240	39,4 %
Indicator: social	197	32,3 %
Indicator: ecological	22	3,6 %
Indicator: sustainable	21	3,4 %
Total	609	100 %

Image 6: Distribution of Sustainability Codes (own image)

Differences in functions and industries

Within the individual sectors, the job advertisements were compared with or without reference to the defined sustainability aspects. Figure 4 (top) shows the evaluation by industry with at least 40 cases (i.e., readings in the sub-sample). The results show that the consulting industry (51.2%) and the electrical engineering industry (47.5%) show more sustainability aspects in the ads than the average of all ads (39.4%) of the total of 14 sectors considered. In the HR services and automotive industry, the sustainability ratings in the advertisements are below average at 23.2% and 24.1%, respectively. Thus, assumption 3, which suspected industry-specific differences in the use of the sustainability concept, could be confirmed. However, it could not be confirmed that sustainability aspects have a stronger impact on the manufacturing industry.

Regarding the functional areas, there are job advertisements for computer scientists as well as auditors, and legal and financial experts who are disproportionately represented. On the other hand, buyers and logisticians as well as marketing and communication functions are below the average of 39.4% of sustainable ads. Also Figure 4 only shows features with at least 40 ads. Function-specific differences within some job roles are therefore recognizable. However, it could not be confirmed that human resource management and technical functions in particular have a stronger affinity for the implementation of the sustainability concept. Therefore, assumption 4 can only be partially confirmed.

Fig. 4: Frequency of sustainable ads

Branches

Branches		Fallzahl
IT & Internet	42,5	80
Personal Service	23,2 *	56
Automotive	24,1 *	54
Health Science	41,3	46
Retail	31,1	45
Consultancy	51,2 *	43
Engineering	47,5 *	40
Total	39,4	609

Functions

Functions		Fallzahl
Engineering	42,3	137
IT	46,3 *	121
Sales Management	32,7 *	98
Law	47,5	40
Finance & Accounting	45,0	40
Supply Chain Management	27,5 *	40
Marketing	22,5 *	40
Total	39,4	609
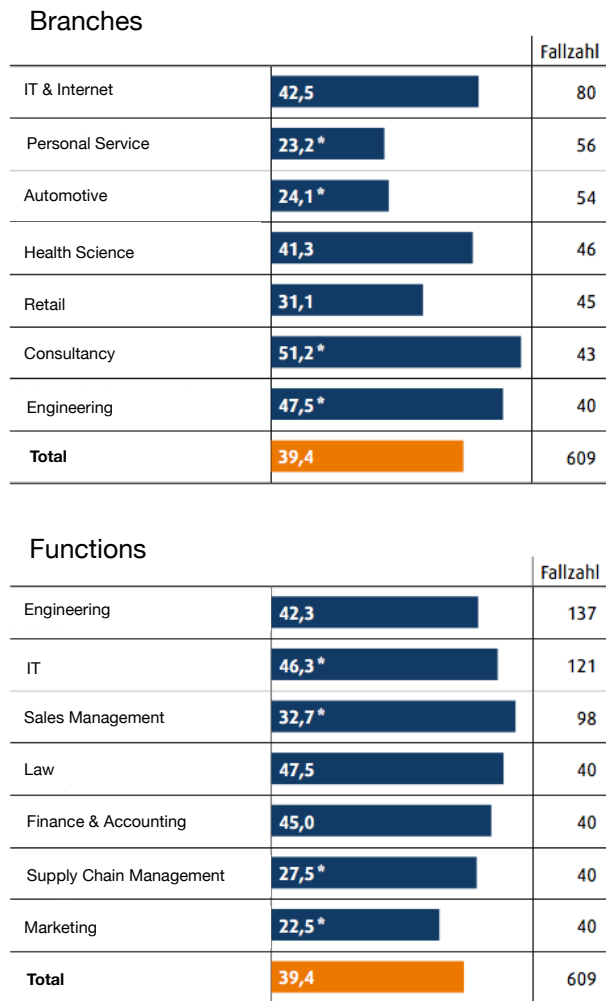
Source: Own Graphic

Image 7: Branches and Functions with Sustainable Codes (own image)

Findings

The study allows a look at the state of implementation of sustainability in recruiting employees. Within the total sample, 39.4% of job advertisements identified sustainable aspects. There is hardly a company in Germany that does not publish a sustainability report or publish a statement on sustainability on the company's website. Therefore, this result surprises. It may be argued by the companies that are bidding that the job advertisement is not

the appropriate place to highlight the sustainability of a company or include such a requirement in the profile of potential candidates. Nevertheless, this raises the question: Why are many skills called natural skills such as "dealing with office products" or "ability to work in a team " mentioned, but the social commitment of a candidate is not mentioned? The implementation of sustainable corporate governance ultimately lies with the employees. A true understanding of people with disabilities, working conditions in developing countries or the effects of climate change, for example due to droughts or floods arises from the experience gained through assistance in appropriate projects. Students, for example, who are involved in charitable projects, intensively and vividly contribute to discussions about this topic owing to their real experiences. So far, such commitment is only required in the award of scholarships or church organizations.

Despite the importance and commitment of many companies to sustainability, for example in the form of their CSR report, the implementation of the sustainability concept in the recruitment process provides an opportunity to improve. More than half of the ads show no sustainable aspects. Within the 39.4% of the ads with sustainability references, the social sector predominates and in about half of them the continuing education topics are highlighted. The argument that companies have already invested in training long before the Brundtland report in 1987 presented a sustainable development concept that cannot be denied.

The study is a cross-sectional study in which the job advertisements of a leading job portal were examined within a short period of time. This job portal primarily promotes jobs for academics. The implementation of the sustainability concept according to sectors and functional areas was also examined. It should be remembered that job portals sometimes address different industries / occupational groups. Portals that mainly address IT specialists or skilled workers may have different results. A meta-analysis of several large and specialized job portals would help.

Furthermore, it is possible that industries or functional areas where the number of job advertisements has a seasonal character or is subject to economic fluctuations, are underrepresented - or overrepresented. This would have to be investigated over several measurements at different times. It would therefore be useful to carry out a long-term study with several measurements over a longer period of time. This would also allow to assess to

what extent the importance of sustainability in job advertisements is changing over time. In addition, the analyzed job advertisements is limited to Germany. Future international research would show how the sustainability of a company within an international context, especially in developing countries, is reflected in a different legal, cultural and social framework. For example, statements about corruption and child labor could be expected.

Practical implications

The analysis shows possible opportunities for the implementation of the sustainability concept in the recruitment process. In order to be attractive, as an employer, for well-trained specialists and executives, more advertisements point to ecological, social and sustainable efforts. The prerequisite for a practical participation and / or implementation of sustainable projects in the requirement profile also sends a clear signal to a target group that is not only open to the subject but also sensitized and experienced. A job description, which also emphasizes the implementation of sustainable processes, underlines a serious commitment to sustainability. Last but not least, companies have the opportunity to differentiate themselves from their competitors in the job advertisement because only a few of the possible fields of action for sustainability are addressed.

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3.2 The Sustainability Concept in Recruitment

The following chapter focuses on the definition of indicators referring to sustainability in the recruitment process. The methodical framework get refined and the sustainable patterns narrowed. The guiding principle of sustainability assigns equal relevance the model of sustainability assigns equal relevance to ecological, economic and social aspects when defining future goals and developments. This model is playing an increasingly important role for companies. External groups such as NGOs (Non-Governmental Organization) are exerting more pressure, but investors are also showing an increased interest in corporate social responsibility and thus in the social responsibility of a company. The increased expectations of employees and consumers with regard to corporate social responsibility intensify the pressure for sustainable management.

The sustainability concept in human resources management

The term sustainable human resources management describes in particular operational and strategic approaches to action aimed at the long-term, socially responsible and economically expedient recruitment, development, retention and release of employees (Zaug et al. 2001, p. 1). Thus, human resources management is attributed a key role in the implementation of sustainable business models (Wirtenberg et. al. 2007, p. 8). In this context, the primary goals of sustainable human resources management can be defined. The implementation of processes and corporate structures, which simplify the operational implementation of sustainably oriented goals, are to be understood as core competencies of sustainable personnel management in addition to a holistic and cross-company approach of the various interest groups. (Wirtenberg et. al. 2007)

Today, sustainable approaches to ideas and actions are hardly sufficiently investigated in human resources management, nor are they widely used. Sustainable personnel management is usually defined as the alignment of personnel work with long-term goals. Sustainable personnel management is usually understood as the orientation of personnel work towards long-term goals. However, if human resources management is seen as a strategic partner of company management and management rather than simply fulfilling an administrative function, it must respond to changes in external conditions. (Weissenrieder, 2010, p. 11)

The socially responsible, long-term and economic recruitment, development, retention and release of employees will be the central challenge of future personnel management (Lazlo & Zhexembayeva, 2011). A lack of these efforts on the part of companies not only discourages new employees, but also increases the motivation of current employees to migrate (PricewaterhouseCoopers, 2009). Qualified young professionals and experienced professionals are particularly attracted to¨green¨ employers (Bhattacharya, 2008).

The approaches described were the basis for the study on the implementation of the guiding principle of sustainability in personnel recruitment as one of the basic pillars of personnel management. The study examines the role of the concept of sustainability in the recruitment process. In the process, branches and functions are differentiated according to differences in the significance and implementation of the mission statement. In addition, the terminological reference in the communication of sustainability is also attempted to be established. The following hypotheses have been put forward:

- Hypothesis 1: Companies are referencing their various activities in sustainability management on the company website and in sustainability reports (Hoffmann 2011; Glausch 2017, p. 396 ff.). The key terms (sustainable, social, ecological/environment) should appear as a single word or part of a word in the job advertisement.

- Hypothesis 2: The sustainable orientation of a company is considered advantageous in the recruitment of specialists and managers (Albinger & Freeman, 2000). It can therefore be assumed that job descriptions indicate the sustainability of a company.

- Hypothesis 3: Industries differ in terms of the importance and implementation of the sustainability concept, as manufacturing companies in particular are considered to have a greater importance in sustainable efforts (Berrone & Gomzes-Meijia, 2009). Therefore, industry-specific differences in the use of the sustainability concept should be verified.

- Hypothesis 4: Specific job roles in human resources management and/or technical functions are attributed a stronger affinity in the implementation of the sustainability concept, as these can influence all other functions across companies (Dubois & Dubo-

is, 2012). Therefore, function-specific differences in the sustainable job descriptions should be recognized.

Quantitative Content Analysis

Based on the 3-pillar model (Elkington, 1998, p. 91), the three categories (1) general and economic sustainability (2) social sustainability and (3) ecological sustainability were defined. It should now be investigated to what extent these key terms (sustainable, social, ecological/environment) actually indicate the implementation of the sustainability concept in personnel recruiting. Within three working days in November 2015, slightly more than 57,000 job offers from a leading job portal in Germany were selected according to the terms "environment", "social" and "sustainable". In this way, 9600 ads were identified that contained at least one of the three terms. The sample was selected systematically (k= K/n, 9600/600=16) within the framework of a targeted sample of 600 job advertisements. Continuous changes in the job advertisements in the portal during the data collection period resulted in a final sample of 609, which were incorporated into the data analysis software MAXQDA.

Sample Composition

The two authors then worked through all 609 advertisements independently of each other and examined to what extent the key terms "environment", "social" and "sustainable" were actually related to the concept of sustainability in the context of the advertisement. In addition to the three keywords, an in-depth search for these keywords was carried out by means of a keyword catalogue using the lexical search in MAXQDA. The keyword catalogue was generated by a non-representative evaluation of CSR reports and websites of German DAX companies.

Therefore, assumption 1 that the key terms (sustainable, social, ecological/environment) can be found as a single word or part of a word in job advertisements and are therefore used as an indicator for the implementation of the 3-pillar model is not applicable. At the same time, new aspects were identified and divided into subcategories. Subsequently, the results were checked and compared in a feedback loop, and incongruencies were identified, discussed and transferred to coding rules (Mayring 2010, S. 59 ff.). The developed subcategories were summarized

and quantified in supercategories. All entries were counted only once in the subcode, double counts in the supercode are possible (example: the entry in the subcode "equal opportunities" and a further entry in the subcode "further education" led to two encodings in the supercode "social").

Coding Guide for the Category General and Economic Sustainability

Sustainability/economical	Sustainability/environment	Sustainability/social
• Fighting corruption • Consumer protection • New business models (Sharing Economy) • Sustainable production and consumption • Evaluation of monetary performance/Social responsible investment • Sustainable/cause-related marketing • Sustainable value chain/Supply chain management • Product responsibility / Obsolescence/ • Return systems	• Product responsibility/Obsolescence/Return systems • Prevention/reduction of emissions, waste, toxic substances • Recycling • Energy conservation • Energy efficiency • Eco-efficiency • Wastewater industry • Renewable energy • Mobility processes • Cradle-to-cradle/eco-efficiency/closed-loop economy • Biodiversity	• Responsibility for employees and the company • Cultural Diversity • Well-being at work • Health and security • Work-Life-Balance • demographic change • Qualification, general and professional development • Stakeholder dialogue/Co-operation with companies, institutions, schools and universities • Human Rights • Child labour

Table 1: Keyword catalogue preliminary examination, source: own presentation

Coding Guide for the Category General and Economic Sustainability

Definition	Anchor examples	Encoding rules
Economic use of an organization or business in the sense of the preservation and economic continued existence. Includes growth, productivity and resource utilization (Pufé 2014, pp. 105-106) ...offer a sustainable basis for prosperity and employment, protection of resources from exploitation. (Clement et al. 2014, p. 25)	Sustainable and profit-oriented growth with commitment to the environment, society and employees (580,228) Improving living conditions worldwide (386) Our goal: to move things forward and make them significantly better - for our employees, our clients and the society in which we live (295) The opportunity to carry-out work that improves the lives of future generations (262) Profitable growth with a clear commitment to the environment, society and our employees. (244)	**Counted:** Use of the term that indicates that it refer to sustainability in the sense of the above definition **Not counted:** • Sustainable acting company -> without explanation, or further characteristics in the text • Use of the term in the sense of long-term effect.

Table 2: Coding guidelines for general and economic sustainability, own presentation (the numbers in brackets stand for the document number in MAXQDA)

Coding Guide for the Category Social Sustainability

Definition	Anchor examples	Encoding rules
The human-oriented use of an organization so that essential characteristics are maintained and the personnel-related and social continuity is ensured. Aspects: Discrimination, tolerance, solidarity, inclusion (Pufé 2014 p. 106-107) Securing basic needs, equal opportunities, human rights and co-determination (Clement et al 2014, p 25)	High social standards at all locations worldwide 225 "People are important to us" (...) Equal Opportunities (581) Promoting diversity (456, 441, 415, 296, 295) Disability (154, 150, 144) Long-term work-life balance model (264) Reconciling work and family life (604, 550, 297) Continuing education, systematic promotion of professional and personal development (606) Individual training programs, group-wide training programs (600, 605) Training options in the company's own Academy (576) Continuing education offered by the Group Academy (515) Internal Health Management (524, 517, 520)	**Counted:** - Adherence to social standards, also internationally - Equal opportunities and promotion of diversity (women, the disabled, ethnic groups, cultures, etc.) - Work-life balance, compatibility of work & family or private life, counselling services for employees in difficult life situations - Concrete training and personnel development offers, company-owned training centres/academies - Health promotion/prevention, nutrition, sports, culture **Not counted:** - "support for further development", which would include the granting of educational leave or "diverse development opportunities" without concretisation - Requirements for applicants in health and social services for whom the "social" aspect is the usual part of the position - in-house summer celebrations/Christmas celebrations

Table 3: Coding guidelines for social sustainability, own presentation (the numbers in brackets stand for the document number in MAXQDA)

Coding Guide for the Category Ecological Sustainability

Definition	Anchor examples	Encoding rules
Use of a system in which essential characteristics are retained and continuity is ensured. Aspects: Use of natural resources, anthropogenic emissions (Pufé 2014, p 106) Bewahrung von Natur und Umwelt (Clement et al. 2014, p 25)	With sustainable concepts we support the successful future of economic regions, make an important ecological contribution and thus shape the world of tomorrow. (126) The environment, which can breathe a sigh of relief thanks to short distances and regional products. (342) Reduce environmental impact (210), solutions for people, technology and environment (147) Car rent sharing model (145)	**Counted:** • Reduction of environmental impact • Commitment to the environment • Resource- and energy-saving production and logistics **Not counted:** the strict observance of legal regulations

Table 4: Coding guidelines for ecological sustainability, own representation (the numbers in brackets stand for the document number in MAXQDA)

Findings of the study

Sample

39% of the sample (240 of the 609) confirmed that the ads were in line with the 3-pillar model of sustainability. With a significance value of $P = 0.5$, the statistical error is 4%.

$sp=\sqrt{(p(1-p)/(n-1))}=\sqrt{(0,39(1-0,39)/(609-1))}=0,01978$ $0,39-1,96*0,01978 \leq \pi \geq 0,39+1,96*0,01978$

$0,3512 \leq \pi \geq 0,4288$

For the 39% value determined in the sample, this means that the actual value in the study group with 95% of the probability lies between 35% and 43%.

The terms (sustainable, social, ecological/environment) were used in a different context in 61% of the line sample (369 job advertisements). Examples of aspects not counted are: the use of the word or part of the word "sustainable" as synonymous with "long-term" or "lasting". These were excluded from counting by the coding rules (see Table 2: Coding Guide). Assumption 2 can only be partially confirmed, as the majority of job advertisements do not show any sustainability aspects in the sense of the 3-pillar model.

Focus on social aspects

The key term most often used is "social" with a proportion of 32%. The term distinguishes itself in social aspects of personnel development and further training (162 out of 197 ads), minimizing burdens that affect the health and quality of life of employees, balancing social injustice (equal opportunities), flexible working hours, reconciling work and private life and allowing sufficient time for family life.

The ecological perspective is reflected in 4% (22 ads) of all ads. It describes compliance with environmental standards and measures to strengthen environmental protection, as well as aspects of logistics and technology.

Within the word groups "sustainable" and "sustainability" 3% (21 ads) were found. These describe the balance between purely economic interests and the preservation of the system. In general, reference is made to efforts to achieve sustainable commitment without explicitly mentioning actual operational or strategic activities.

	Quantity	Proportion
Advertisements with a min. code	240	39,4 %
Supercode: social	197	32,3 %
Supercode: environment	22	3,6 %
Supercode: sustainable	21	3,4 %
Total advertisements	609	100 %

Table 5: Frequency and distribution of codes, custom display

Comparison of functions and branches of industry

A comparison of the individual branches of industry with or without mentioning the defined sustainability aspects is shown in Figure 4. The results show that the consulting industry and the electrical engineering industry have the most frequent sustainability aspects. In the personnel service sector and in the automotive industry, the sustainability aspects mentioned in the advertisements are below average. Thus, assumption 3, which assumed industry-specific differences in the use of the sustainability concept, could be confirmed.
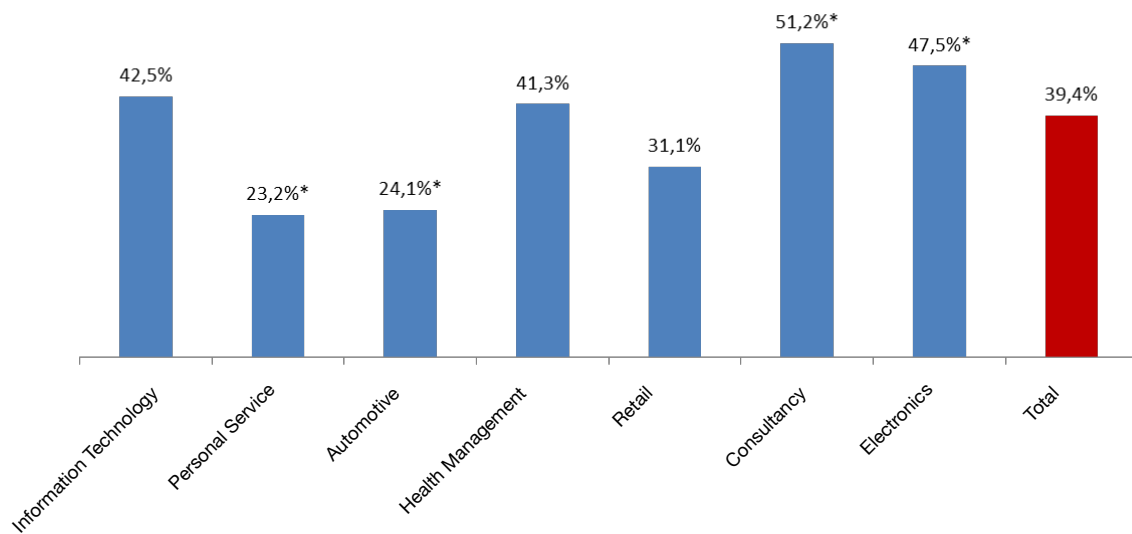
Image 8: Frequency of Sustainable Ads by Branch (own image)

*= significantly different from
the average for all branches at 0.05

With regard to the functional areas, there are job advertisements for computer scientists as well as auditors, legal and financial experts with a disproportionate representation. On the other hand, buyers & logisticians as well as marketing and communication functions fall below average. Function-specific differences within some job roles can therefore be identified. However, it could not be confirmed that there is a stronger affinity for the implementation of the sustainability concept, especially in personnel management and technical functions. Therefore, assumption 4 can only be partially confirmed.
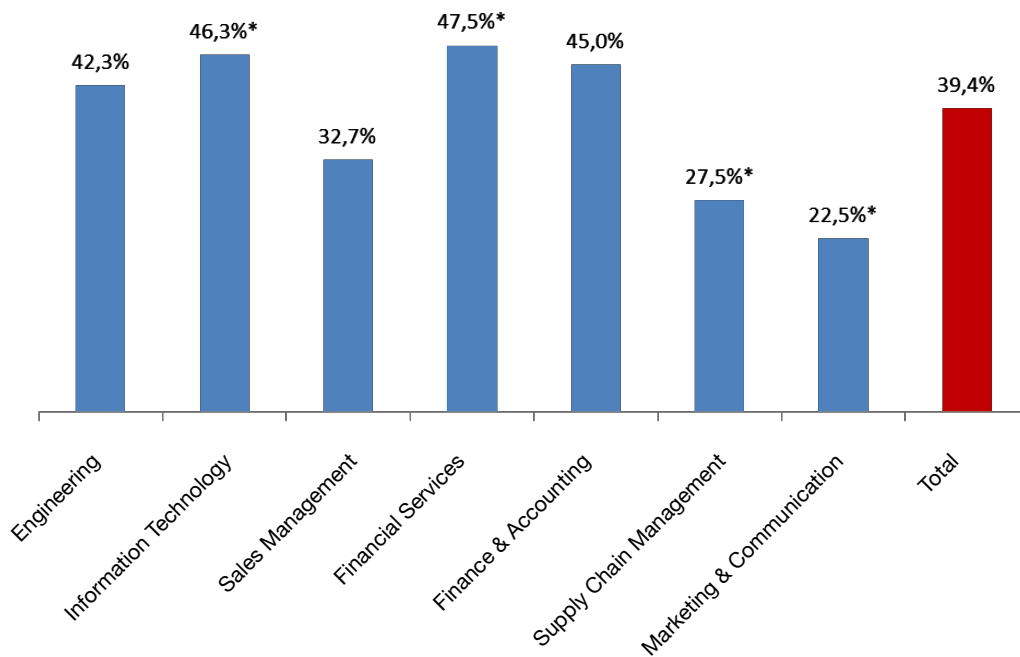
Image 9: Frequency of Sustainable Ads by Functions (own image)

*= significantly different from
the average for all branches at 0.05

Findings

The importance and significance often mentioned in the implementation of the sustainability concept is hardly applied in the first recruitment phase. In the sample, 39.4% of the job advertisements showed sustainable aspects. There is hardly a company in Germany that does not publish a sustainability report or a statement on sustainability on the company's website. Therefore, this result is surprising. Even if the argumentation of the companies issuing the advertisement that the job advertisement is not the appropriate place to emphasize the sustainable orientation of a company is conceivable, it is striking that almost self-evident components (handling office packages) or "capacity for teamwork" are often placed.

The obligation to implement sustainable corporate management should be borne organically by employees. A real understanding of people with disabilities, working conditions in developing countries or the effects of climate change, e.g. due to droughts or floods, arises from the experience gained through assistance in relevant projects. Students who are involved in charitable projects, for example, contribute intensively and vividly to discussions on this topic on the basis of their real experiences.

The cross-sectional study, in which the job advertisements of a leading job portal were examined within a short period of time, relates primarily to jobs for graduates. In this context, it should be borne in mind that job portals sometimes address different branches of industry/occupational groups. Portals that mainly address IT specialists or skilled workers can show different results. A meta-analysis of several large and specialized job portals would solve this problem. Future international research would show how a company's sustainability is reflected in an international context, especially in developing countries with different legal, cultural and social conditions.

Practical Implications

The analysis primarily shows the current gap in the implementation of the sustainability concept in the recruitment process. In order to underline credibility and meet the need to be attractive for highly qualified specialists and managers, the description of the company requires references to ecological, social and sustainable efforts. The requirement for practical participation and/or implementation of sustainable areas of responsibility in the job specifications also sends a clear indication to a target group that is not only open to the topic but also sensitized to it. A job profile that also emphasizes the implementation of sustainable processes underlines a serious commitment to sustainability and can also be used as an opportunity to differentiate itself from the competition.

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3.3   The Appliance of Sustainability in Recruitment

The following chapter investigates the differences in the usage of the concept of sustainability in the recruitment process regarding branches, functions and managerial positions.

The concept of sustainability is regarded as a model for future-oriented development, which is to be designed with equal consideration of economic, ecological and social aspects. This mission statement is playing an increasingly important role for companies. External groups such as NGOs are exerting pressure, but investors are also increasingly interested in a company's corporate social responsibility. Increased consumers and employees expectations of corporate social responsibility are intensifying the pressure for sustainable management, coupled with the focus on transparency induced by new technologies and social networks. The lack of resources and the transformation of the ecosystem exacerbate this development.

Sustainability in human resources management

Sustainability is therefore an important factor in human resources. "Sustainable personnel management means in particular those approaches to thinking and acting that ensure long-term, socially responsible and economically expedient recruitment, development, preservation and release of employees" (Zaug etal., 2001, page 1). The core points and relevant activities of sustainable human resources can be summarized as development, retention and release of employees" (Zaug etal., 2001, page 1). The key points and relevant activities of sustainable human resources management can be defined in three major goals. These include the orientation towards sustainable values and the reminding and supporting function of human resources management together with the Executive Board. The implementation of structures and systems that simplify the operational implementation of sustainability should also be seen as a core competence of sustainable personnel management - alongside a holistic approach (Wirtenberg et al., 2007). The presence of human resources management in sensitizing and preparing employees for ecological, economic and social changes is of great importance (Dubois & Dubois, 2012).

Qualified employees are attracted by "green" companies

Based on the model of sustainable HR management, the question arises: To what extent is the concept of sustainability currently applied in personnel management, and in what form can it be optimized to ensure the long-term supply of qualified, motivated and sustainably oriented employees? The wish list of the recruited young professionals is extended by the requirement of an ecological, economic and socially sustainable orientation of the companies. A lack of sustainable efforts on the part of the company not only discourages new employees, but also increases the motivation of current employees to change. Qualified entry-level employees and experienced specialists are particularly attracted to "green" employers (Bhattacharya, 2008) - these were the initial considerations of the study on the implementation of sustainability in personnel recruitment as one of the core instruments of personnel management. There are currently more than 650,000 vacancies in Germany (as of October 2016, Federal Employment Agency). Instead of including the recruitment activities of all industries, which would extend the framework in time and capacity, the food sector with 1.914 companies operating in Germany announcing 8745 job advertisements on their homepages is investigated (November, 2015). The concept of the triple bottom line, which divides the term into ecological, economic and social factors (Elkington, 1998, page 91), was used as indicators of sustainability. However, the term sustainability is used in an inflationary and inconsistent way. Therefore, more than twenty individual words and word groups have been compiled on the basis of scientific journals with terminological references to the concept of sustainability.
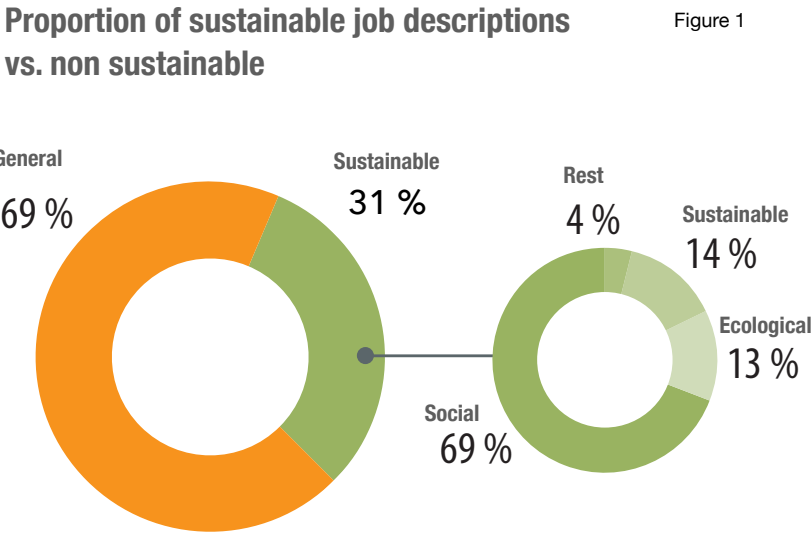
Proportion of sustainable job descriptions vs. non sustainable

Figure 1

General 69 %

Sustainable 31 %

Rest 4 %

Sustainable 14 %

Ecological 13 %

Social 69 %

Image 10: Proportion of Sustainable Job Descriptions (own image)

The results of the study

The defined key terms were found in 31 percents of the sample. Thus 69 percents of the job descriptions show no reference to the sustainability concept. Despite the much-discussed importance and constant reference by companies to sustainability, major gaps can be seen in the operationalization and application of the concept. 14% of the share in the distribution of collective terms that refer to sustainability are allocated to the general term "sustainability" or "sustainable". The ecological perspective of sustainability accounts for 13%. More than two third (69%) can thus be allocated to the social pillar of the sustainability concept. More than half (56%) of the job descriptions refer to the indicator „secure workplace", which in absolute terms represents 40% of all advertisements that use the concept of sustainability.

Human Resources has a disproportionate reference to sustainability

For further investigations a random sample of 300 job descriptions were identified out of the 8745 job announcements. With regard to the functional areas, job advertisements in sales and distribution account for the largest proportion of the 300 job advertisements in absolute terms. In relative terms, i.e. in the evaluation between job advertisements without (208 job adverti-sements) and with sustainable indicators (92 job advertisements), there are functional areas that have much more reference to sustainability. Advertisements that fall into the functional areas of human resources, project management and logistics have a disproportionate share of sustainable vacancies. Marketing, information technology and finance show the least sustainable indicators. Technically affine profiles in engineering and production are in the medium range of the evaluation.

Job roles for senior management have little reference to sustainability

Just over half (51%) of all job advertisements belong to middle management. These require a university degree and work experience. Nearly half of all job advertisements with sustainable indicators (49%) can be found in middle management. The relationship between vacancies with and without reference to sustainability seems to be balanced. These are vacancies that also include a university degree and professional experience requirements, but also include employee responsibility. Such jobs account for nine percents of all job advertisements. Only one third of these vacancies show a reference to sustainability. In comparison, job roles that belong to lower management have a stronger relation to sustainability. Such vacancies without

a university degree and without employee responsibility account for 40% of all jobs. However, the job roles in lower management account for almost half (48%) of all job advertisements with sustainable indicators.

Sustainable Indicators in Branches

display in percentage

Branch	Proportion branches of all job descriptions	Proportion branches of sustainable job descriptions
IT	4	1
Financial Services	8	3
Sales Management	34	30
Marketing	7	7
Qualitymanagement	13	13
Engineering	14	15
Production	10	13
Logistic	5	7
HRM	5	8
Projectmanagement	1	4

Source: Universitat Politecnica de Catalunya, 2017
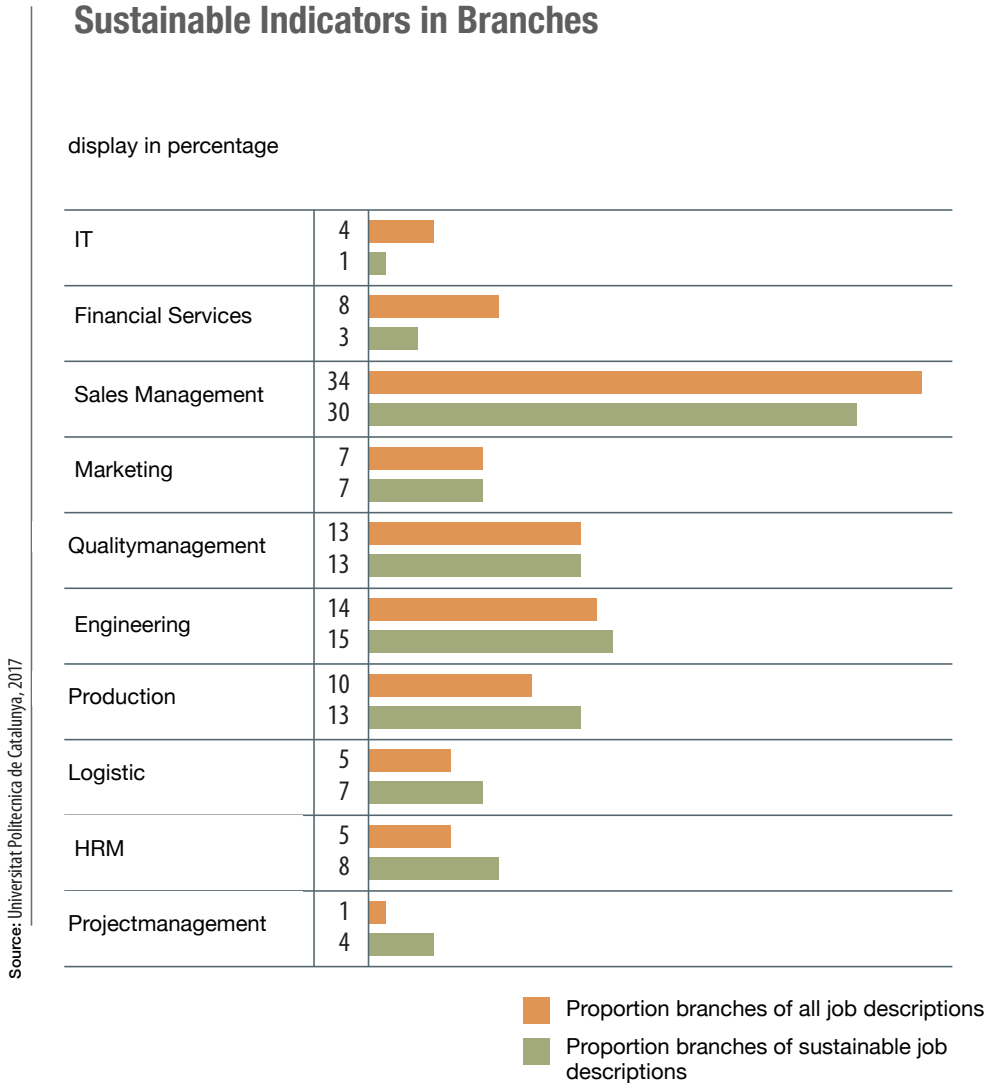
Image 11: Sustainable Indicators in Branches (own image)

Sustainability concept hardly applied in recruitment

The often mentioned importance in the implementation of the sustainability concept, from the perspective of NGOs, investors, consumers and employees, among others, is hardly applied in the first recruitment phase of the job advertisements. More than two thirds of all job descriptions do not have any form of sustainable indicators. The vacancies that refer to the mission statement advertise the social pillar of sustainability in particular. A secure job is the most common reference mentioned and could underline sustained efforts in currently

uncertain and crisis-prone markets. Overall, an overarching view of the industry and function focuses on the low number of sustainability indicators cited and raises questions: Why are skills such as "dealing with office products" or "ability to work in a team ", which are almost a matter of course for many jobs, do not expressly mention the social commitment of a candidate? Companies are only credible if they include such services in the applicant profile of the desired candidate.

What this means in practice

The analysis primarily shows the current gap in the implementation of the sustainability concept in recruitment. In order to underline the credibility and to meet the desire to be attractive as an employer for well-trained specialists and executives, clear references to ecological, social and sustainable efforts are required in the company description. The requirement for practical participation and/or implementation of sustainable projects in the job specifications   also sends a clear signal to a target group that is not only open to the topic, but also sensitized and experienced. A task description that focuses on the implementation of sustainable processes underlines a serious commitment to sustainability. This not only includes a mention of sustainable key terms, but also a precise description of the sustainable orientation in the company, task and activity description.
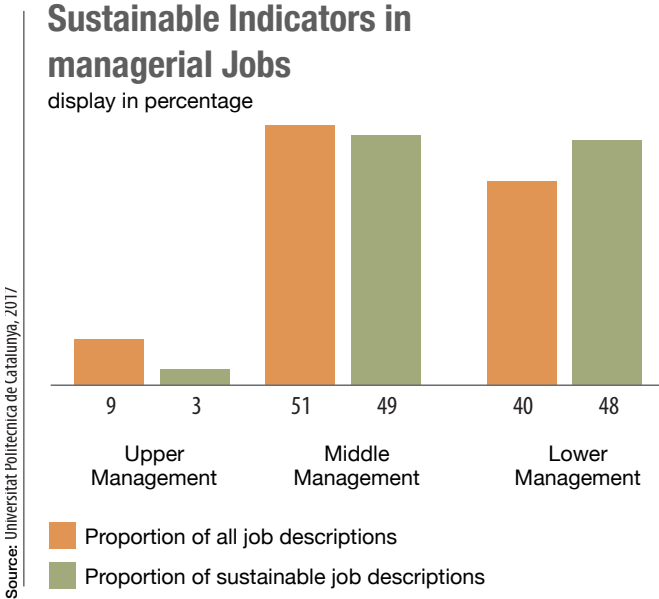

Image 12: Sustainable Indicators in Managerial Jobs (own image)

3.4   The Sustainability Concept in Compensation Management

The following chapter investigates the role of the concept of sustainability in compensation management, which is a major discipline of HRM.

In order to attract and retain specialists and managers, companies can no longer rely solely on monetary Incentives. The expectation from employees rise towards the social responsibility of the company and the general approach towards sustainability. This study shows how the Dax 30 companies deal with it.

Sustainability is becoming a trend topic in times of climate change and general scarcity of resources - both of raw materials and of specialists and managers - and is used inflationarily in connection with various subject areas. In this way, the original idea of sustainability, in cases of so-called "green washing", can be alienated for marketing and PR purposes without actually integrating economic, ecological and social sustainability aspects into the value creation processes. This results in the necessity for companies to deal intensively with the lived and communicated Corporate Social Responsibility or the model of sustainability. In the course of social sustainability, a discussion about exorbitant manager salaries was sparked off. Criticism and discontent caused by the publication of the annual and remuneration reports in 2016, when the annual salary of a Dax CEO averaged 5.5 million euros, more than a hundred times higher than the average employee in Germany. The topics of sustainability and compensation management will therefore become more relevant and interactive in the current and future. Combining the two topics under the term "sustainable compensation management" in connection with transparent re-porting could be a first step towards a solution. In particular, the composition of the remuneration components and the determination of the performance criteria for short and long-term variable remuneration payments play a significant role here. The aim is to set binding targets for achieving the salary based on social, ecological and economically sustainable goals.

Analysis of Dax 30 companies

The overriding question that arises in connection with sustainable compensation management is: Does sustainability play a role in compensation, and to what extent are compensation-relevant statements made in the sustainability reports? The following evaluations are based on

the annual and sustainability reports published by the Dax 30 companies for 2016. Here, reporting in particular was examined with regard to the interactions between remuneration and sustainability. The Dax target group was deliberately chosen because the German Stock Corporation Act and additional provisions in the German Commercial Code oblige listed companies to make the remuneration report transparent for the Executive Board and Supervisory Board. All data used are publicly accessible and are therefore not based on random sampling or surveys, but correspond to official corporate communication. The evaluation method is based on a quantitative content analysis that uses the relevant guidelines from the G4 Global Reporting Initiative as an evaluation benchmark for the evaluation of reporting. Four out of five of the selected criteria are based on a quantitative content analysis. The performance criteria and objectives in connection with "stakeholder goals" were evaluated on a qualitative basis. Four different objectives were deductively derived in the context of sustainable compensation management:

- Long-term nature of the remuneration system with regard to quality
- Long-term nature of the remuneration system with regard to adjustment possibilities in the event of future trends and developments
- Sustainable use of the resource personnel
- Integration of sustainable action within performance and compensation management

The quantitative analysis is based on a three-step evaluation based on the intensity analysis model, the strongest positive characteristic being "yes, this information is provided in the sustainability report" and the most negative "no, this information is provided neither in the sustainability report nor in the remuneration report". The expression "yes, this disclosure is made in the compensation report, but not in the sustainability report" is classified as inter-mediate. The result is an analysis of the pro-portion of companies that actually mention compensation aspects within their sustain-ability reporting, and it can also be seen which portion of the companies are limited to information in the compensation reports within the annual reports. It should also be noted that as soon as a separate sustainability report was published, other sustainability chapters in the annual report were disregarded. The performance criteria are based on a summary qualitative content analysis with the aid of formation. The first aim is to examine the remuneration and sustainability reports for so-

called "stakeholder goals" in accordance with the theoretical explanations. In a second step, the above objectives were assigned to super-ordinate categories in order to obtain a final overview of the criteria applied within the Dax 30 companies and their frequency.

The method of examination can be reproduced as often as required and can also be repeated on the same object using a modified analytical instrument. For example, the same evaluation could be carried out in the next financial year in order to identify changes and trends in the area of sustainable compensation management if necessary.

Large differences in reporting

Although the topic of "remuneration policy" is mentioned by almost all companies in the sustainability reports (26 out of 30 companies), the scope of the statements on practices varies considerably. In general, around two thirds of the companies mention performance-oriented, variable remuneration components within the sustainability guidelines. Half of them report on equity participation opportunities offered to their employees and one third also mention sharebased elements. 13 of the companies mention the fixed remuneration components, while 22 of the Dax 30 companies mention variable components within their sustainability reports. None of the Dax 30 companies includes severance payments or similar benefits in their sustainability report, whereas almost all (29) of the companies have made such compensation arrangements with their Management Board members. This can already be an indication of gross gaps in the implementation of the sustainability aspect. The figure shows the 13 derived categories of performance criteria. It is clearly evident that goals that are oriented towards customer and employee satisfaction dominate with eleven nominations each. Third place in six companies is taken by digitization and innovation initiatives as evaluation indicators for the Management Board. Closely linked to this topic is environmental protection (five mentions), which, in addition to targets for waste management and reduction of emissions, also considers the efficiency of energy management. In the category "Safety & Health Management" (five entries), the reduction of accidents at work and the promotion of health management can simultaneously reduce costs for employees who are absent and, if necessary, avoid legal costs in the event of damage. In addition to the behavior in compliance matters (five nominations), the individual performance of an Executive Board member can also be

measured by personal leadership competence. Five companies have also formulated goals for this purpose, and "Deutsche Post", for example, is introducing the "active management" indicator.

Pillars of Sustainability in Compensation Management

Pillar	Value
Customer Satisfaction	11
Employee Satisfaction	11
Innovation / Digitalisation	6
Compliance	5
Security / Health	5
Leadership	5
Environment Protection	5
Women in Management	4
Diversity	3
Corporate Responsibility	3
Reputation	3
Integrity	2
HRM	2
Rest	4

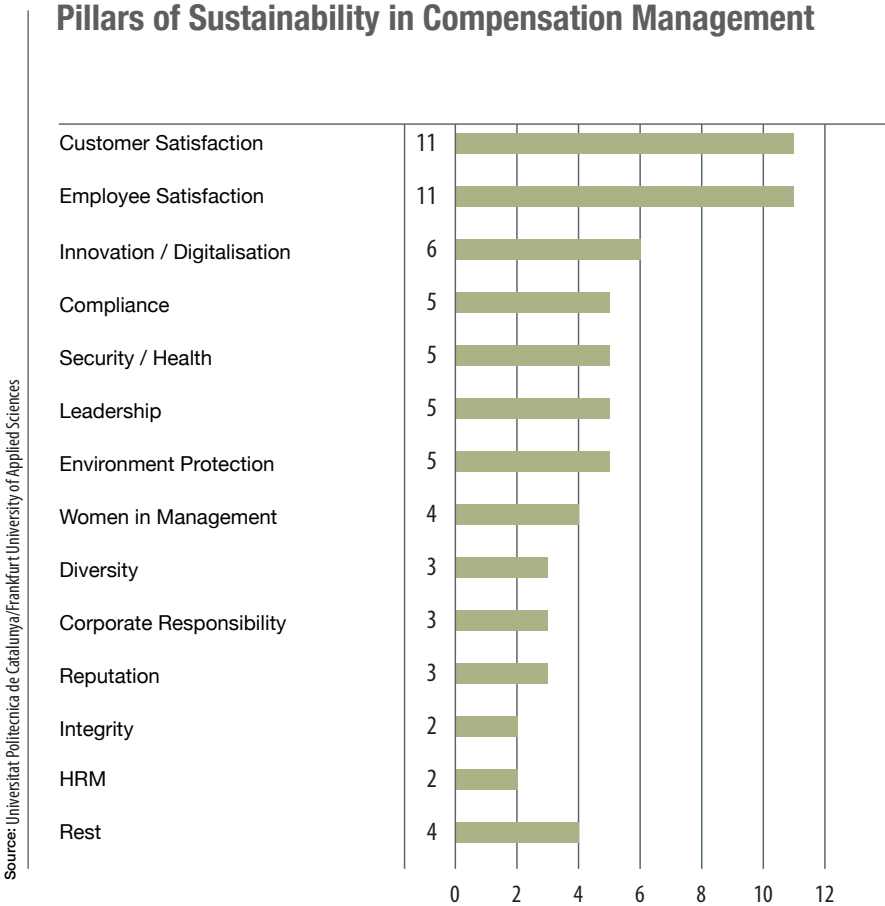Source: Universitat Politecnica de Catalunya/Frankfurt University of Applied Sciences

Image 13: Pillars of Sustainability in Compensation Management (own image)

The proportion of women in managerial roles of minor importance

The introduction of target values for the proportion of women in management positions, or general equality, is mentioned by four of the 30 companies, with other goals in this context referring to diversity initiatives (three nominations) or the goal of "integrity" (two nominations). Overall "sustainability goals" (three mentions) are summarized under the category "Corporate Responsibility". In addition, two companies use the evaluation of the company's human resources work and set so-called "HR goals". The general process of determining the remuneration of the Executive Board is only mentioned in four of the Dax 30 companies. In the course of this process, almost half of the companies consult external compensation consultants. However, the proportion of companies that also publish this information in the sustainability report is only 10 percent.The experience of the experts in this area may facilitate a reorientation or reorganization of the remuneration system. It is also noticeable that 29 of the Dax 30 companies do not give any indication of the ratio between the highest paid employee and the median. Continental is the only company that gives the ratio between the CEO and the average personnel costs per employee in the sustainability report. However, at 1:30, this ratio is well above market recommendations. Even if sustainable corporate performance should be rooted in all hierarchies, board members and managers have a great impact on defining leading decision for the company. These can determine the scope of action of the remaining workforce and thus lead to long-term consequences for the environment and society.

Sustainable stakeholder goals needed

In summary, the implementation of the sustainability model within compensation management can have positive effects on the long-term success of a company. However, there are considerable gaps in the group of Dax 30 companies surveyed. Although remuneration and monetary incentives are only part of the motivation incentives for employees, this part has the potential to serve as a steering impulse for sustainability. A sustainably designed compensation system can combine corporate strategy with the success of the company and the individual success of the workforce. In times of demographic change and a shortage of skilled workers, in which well-trained employees are in a position to choose from several job offers, the remuneration package provided, including further fringe benefits (company-specific fringe benefits in addition to salary), is becoming increasingly important in

order to increase the attractiveness of employers on the labor market. Intrinsic motivational influences such as recognition and self-realization, the existing economic-ethical norms of society or the lived corporate culture can be further approaches to promote the motivation of employees to act sustainably. The topics of sustainability and compensation management are becoming increasingly important due to ongoing globalization and the general scarcity of resources. Various approaches prove the motivation factor of objectives in connection with extrinsic influencing factors through monetary incentives. This motivation can be used to encourage employees to act sustainably and responsibly with the help of a sustainable stakeholding of goals within the corporate strategy or target agreements. In particular, the share and structure of the variable components of the remuneration system promote identification with the company and its corresponding sustainability strategy, for example in form share-based elements or other variants of employee participation. In addition, managers can also participate in long-term entrepreneurial risks, for example through the obligation to make personal investments in the company's shares. This is the necessary trend towards more transparent remuneration systems that not only aim for short-term success, but also promote a value-added process. In this way, the consequences for future generations can be taken into account and sustainable action can be rewarded.

3.5   Sustainable Human Resource Management

The following chapter focuses whether the basic principles of sustainability concept are applied strategically and operationally in HRM.

The basic principle of sustainability assigns equal relevance to ecological, economic and social aspects when formulating future goals and developments. Due to the lack of resources, both in ecological terms and with regard to well-trained specialists, this model is playing an increasingly important role. External groups such as NGOs are exerting more pressure, but investors are also increasingly interested in corporate social responsibility and thus in a company's social responsibility. New ways of communication, supported in particular by social networks, indicate the demand for transparency and convey the increased expectations of employees and consumers for a sustainable corporate philosophy.

Sustainable orientation of HRM

HRM is assigned a key role in the implementation of sustainable business models. The term sustainable HRM describes in particular operational and strategic action strategies aimed at the long-term, socially responsible and appropriate economic recruitment, development, retention and release of employees (Zaug et al. 2001, p. 1). Primary goals of a sustainable HRM can be formulated here. The implementation of processes and corporate structures that simplify the operational implementation of sustainable goals is to be understood as a core competence of sustainable HRM, in addition to a holistic and cross-company approach that integrates various interest groups (Wirtenberg et. al. 2007).

The urgent need for HRM to influence the formulation and development of sustainable and responsible corporate strategies has long been ignored (Cohen et al. 2012). Nowadays, approaches to thinking and action that have a sustainable effect are hardly sufficiently investigated in HRM, nor are they widely used. Sustainable personnel management is often understood as the orientation of personnel work towards long-term goals. However, if HRM is regarded as a strategic partner of company management and management rather than as an administrative function, it must respond to changes in external conditions (Weissenrieder, 2010, p. 11).

Special demand for sustainable products in Germany

The socially responsible, long-term and economic recruitment, development, retention and release of employees will be the central challenge of future personnel management (Lazlo & Zhexembayeva, 2011). This was the starting point of the study on the implementation of sustainability in personnel recruitment as one of the core instruments of personnel management. The demand for sustainability-related activities is particularly important for the food sector, as Germany has the highest turnover in Europe with certified organic products (Foodwatch, 2017). In a global study, the aid organization Oxfam proved that the entire food and beverage market is dominated and shared by less than ten global groups (Oxfam International, 2016).

For these reasons, personal interviews with experts from the five food companies with the highest global sales (Nestlé AG, PepsiCo Deutschland GmbH, Coca-Cola GmbH Deutschland, Unilever Deutschland Holding GmbH, Mars Deutschland GmbH, 2017) were conducted to survey HR managers about the influence of sustainability in HR management. The scope of measures to determine sustainability-related skills was also investigated in personal interviews. In addition, potential sustainability efforts in personnel layoffs and employee support and sustainability were examined as a possible differentiation tool for recruiting highly qualified specialists.

Findings of the study

In defining sustainability, the human resources manager of the top food company outlines that the term is translated internally as responsibility towards society, the planet and the production of healthy products. The resource-saving approach to production, both with raw materials and with employees, is mentioned by two HR managers. All insist on an agreement in the form of contractual agreements (code of conducts) with all trading partners to ensure minimum social requirements such as the prohibition of child labour or the fight against corruption.

Sustainable management is particularly important for staff redundancies

The connection between sustainability and human resources management is obvious, according to everyone involved. The majority of respondents stated that they paid attention to the continued employment of trainees, to internal recruitment strategies for open vacancies and to cooperation with universities when recruiting. Employee retention measures such as training programs and talent programs would also be implemented. The areas that HR managers associate with sustainable personnel management are primarily oriented towards social sustainability issues. Almost all HR managers mention the importance of part-time opportunities, health promotion measures, specific prevention programs, day-care facilities, sabbaticals, and remuneration systems that define sustainable goals. Also the importance of social separation measures such as outplacement, retirement preparation, as well as preparatory resignation interviews are in the foreground in particular with personnel layoffs.

Instruments and innovative solutions for the shortage of skilled workers

The participants in the study agreed that the shortage of skilled workers affected their company acutely. This was particularly true in the area of management. The respondents unanimously stated that the shortage of skilled workers is particularly strong in the manual and industrial sectors as well as in production and training occupations. From the point of view of HR managers, however, middle management is easier to fill. Functionally, the area of information technology would be identified as the most frequent discipline in which the shortage of skilled workers is particularly pronounced. As to whether the guiding principle of sustainability can be used as an instrument to attract highly qualified employees, more than half of those surveyed would agree that generations Y and Z are particularly interested in the topic. However, the HR manager of the largest food company added that sustainability as a single factor solution to the shortage of skilled workers was not sufficient. In addition, creative employer branding actions, modern management styles (e.g. without hierarchies) and new values and methods of working (e.g. openness, participation, design thinking, open spaces) are required.

Sustainability officers in job interviews

More than half of the respondents report that job advertisements would be used to place terminological references with regard to sustainability efforts. The reasons given for this include the lack of training on the subject. An expert also draws attention to the loss of information during communication between the specialist department and human resources. When advertising sustainability concepts, the topic of social sustainability in particular is promoted by statements on the compatibility of work and family life or on flexible working time models. In job interviews, however, three HR managers report that only specific positions are considered to raise the applicant's awareness of their experience in sustainability projects. One market leader in the industry said that he even interviewed a sustainability officer when it came to filling supply chain management positions or positions that particularly affect the company's value chain.

HR managers particularly important in the implementation of sustainability

According to the HR managers of the five largest food manufacturers, the relevance of sustainability will increase in the future. The issue of ecological sustainability is particularly important with regard to options for a more sustainable packaging strategy, regional production sites and the reduction of resources in the global value chain. All companies also agree with respect to the pillar of social sustainability that social responsibility will increase as an employer. Ideas include the continued employment of retired employees as consultants or the involvement of students in binding projects during their studies instead of merely employing them as temporary staff. Two HR managers mentioned medially that they deliberately refrain from targeted consumer advertising to children and minors. An HR manager sees human resources in particular in the cross-functional responsibility to sensitize employees to sustainability efforts.

The HR managers of the food industry disagree as to whether their industry in particular has an overriding role in sustainability efforts. Two HR managers from the food giants point to the responsibility of all sectors and companies. However, there is agreement that a sustainable use of all resources (environment, raw materials, employees and trading partners) is absolutely essential. An HR manager is certain that the sole business philosophy has served to maximize profit. The representative of the world's largest food manufacturer sums up as an overriding goal that everyday work is carried out together with employees and partners to create long-term added value for people and planets.

Personnel recruitment
- Continued employment of trainees after graduation
- Internal recruitment for vacancies
- Access to/cooperation with universities
- Investment in employer branding
- Recruitment of employees committed to sustainability

Personnel support
- Job enrichment/enlargement
- Work-Life Balance
- Sabbaticals
- Remuneration systems with sustainable goals
- Part-time opportunities
- Health promotion measures such as fitness studio, health days, massage possibilities, workers' council
- Day nursery
- Diversity days
- Sensitization of employees to sustainability

Sustainable Human Resource Management

Personnel development
- Advanced training programs
- Talent programs
- Training programs on the subject of sustainability

Staff redundancy
- Discharge interviews
- Retirement preparation
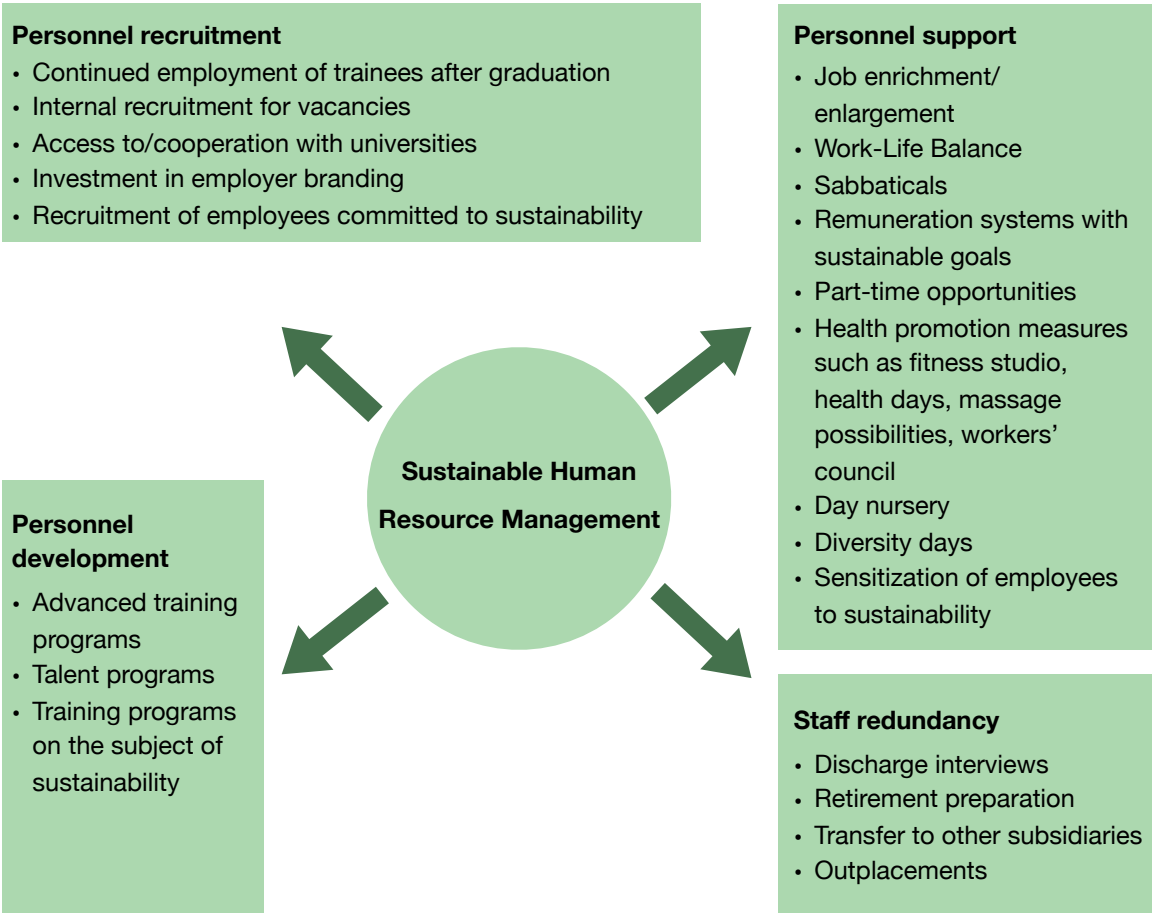- Transfer to other subsidiaries
- Outplacements

Image 14: Approaches of Sustainability in Human Resource Management (own image; based on expert interviews, 2018)

Say-Do Gap in the implementation of sustainability

However, all respondents still feel there are gaps and a need for optimization in the operational implementation of sustainability strategies. More than half consider the reason for this to be the lack of training in the operationalization of sustainability goals. The complexity of implementing such strategies, especially in global value chains, can only be mastered by trained specialists. Only one HR manager thinks that the sustainability tendencies are a temporary trend that still has to prove whether it can survive in the long term. The remaining HR managers of the five largest global food manufacturers agree that this is not a "hype" but an inevitable and lasting development that can offer a major "payback" in terms of strategic, operational and holistic approach.

Practical implications

The expert interviews primarily describe the importance of sustainability, especially in globalized companies. Sustainability efforts are used as a differentiating feature to be attractive as an employer for well-trained specialists and managers. In order to underline its credibility, international agreements are concluded to safeguard the value chain with regard to sustainability requirements. Also the sensitization of the candidates for the topic would be tested in job interviews. HR managers consider that the lack of training on the subject and the loss of information in communication between human resources and the competent department are reasons for potential gaps in the implementation of sustainability. Therefore, a holistic implementation of sustainability in human resources begins with the recruitment of employees who are sensitized to the topic. It includes and rewards sustainable target definitions in the remuneration system, comprises the observance of social sustainability indicators in personnel layoffs and offers a job that ensures the compatibility of work and family life as well as health promotion. The organization of sustainable training, especially in human resources, also sends a clear signal to a target group that is not only open to the subject, but also sensitized and experienced. In order to cover the shortage of skilled workers in the company and to meet the desire to be attractive as an employer for well-trained specialists and managers, clear indications and evidence of the ecological, social and economically sustainable orientation of the company are required.

4 Conclusion

4.1 Main Findings

Human Resource Management and sustainability are based on various disciplines and pillars with interlinking and dynamic linkages. The complexity is the dynamic of ongoing changes between the two fields. This research highlights the gap between stating the importance of sustainability in HRM and implementing it in in the actual HRM strategy and operational functions. Following graphic visualizes the neglection of the majority of hypothesis:

Indicators	Hypothesis (H)
Usage of the concept of sustainability	The majority of all job advertisements spread and feature information about their sustainability focus (H1.1.). **NOT CONFIRMED**
Hierarchy	Management roles tend to relate to sustainability more than non-managerial roles (H1.2.). **NOT CONFIRMED**
Occupational Area	Technical roles or HRM related positions exhibit sustainability patterns (H1.3.). **PARTIALLY COMFIRMED**
Branch	Sustainability-related content is applied in the recruitment process in the food sector (H2). **PARCIALLY CONFIMED**
Compensation & Benefit	Companies commit to the concept of sustainability in their compensation management (H3). **NOT CONFIRMED**
HRM Strategy	Human Resource Managers are aware of the Employer Branding effect of sustainability and integrate in their HRM strategy (H4) **CONFIMED** / **PARCIALLY CONFIRMED**

Image 15: Conclusion of Hypotheses (own image)

Three out of six hypotheses were proven wrong. The hypothesis regarding the major usage of sustainable patterns in the recruitment process, the hierarchical differentiation in using sustainable terms and the implementation of sustainability related aims in the compensation strategy of companies were wrong. The hypothesis stating the food sector has a strong focus in in the implementation of sustainable patterns due to the various gaps in sustainable patterns was wrong. The hypothesis regarding the implementation of sustainability in the compensation strategy of companies were prove wrong as well. The hypothesis regarding differences in the usage of sustainable patterns in the recruitment of various functional areas were right whereas the assumptions of the specific roles were only partially confirmed. The hypothesis of Human Resource Managers being aware of the importance of sustainability and integrate in their HRM strategy (H4) is right since the interviews state being conscious in the effect of implementing sustainability in the different steps of HRM.

The investigation detects the gap in the usage of sustainable patterns in the first step of the recruitment process and implicates potentials for the implementation. It underlines that a job description is the first point of contact to a potential employee and can be utilized to communicate a serious commitment to sustainability by using sustainable terms and describing sustainable efforts.

Especially the food sector, from which consumers expect a high sensitization for the concept of sustainability, has a major gap in the appliance in the recruitment process. With less than one third of all companies in the food sector in Germany using sustainable patterns this highlights a major say-do gap.

Apart from the food sector a large number of DAX 30 companies are attempting to use various performance criteria related to sustainability in the compensation management, but the investigations found less than one third in doing so. The possibility of motivating and encouraging employees to act sustainable by formulating sustainable stake holding goals is left out.

The interviews of the HR Managers confirms the high relevance of sustainability of HRM and point out the reason for the lack of implementation as a "lack" of training and development towards the subject. They also state that it starts with recruiting employees who are sensitized for the concept and bring experience with leading sustainability related projects. In order to

attract these high qualified employees there is a need in pointing out ecological, social and sustainable efforts by the company. By doing so the gap between the two fields of HRM and Sustainability could be bridged, when the term of SHRM is also practically implied.

4.2   Critical Assessment

This research focused on the linkage between sustainability and human resource management and was executed in the time frame of October 2015 to August 2018.

First part of the study entails a quantitative and qualitative structured content analysis focusing all job descriptions on an academic online platform before it focuses specifically on the food sector and the compensation-relevant sustainable patterns.

Second part of the study consists of in-depth interviews of HR Managers in the food industry. It would be considerable to reverse the process, thereby starting with qualitative in-depth interviews. This could promptly demonstrate the human resource management fields in which sustainability plays a role and detect the fields in where the concept is not implemented. Quantitative methods could proceed to confirm the findings.

The first two content analyses gave a broad insight into the usage of the concept of sustainability in the recruitment process of the food sector in Germany. This approach naturally has limitations and methodological challenges; The research is a cross-sectional study in which all job advertisements of the entire food industry are investigated in a specific timeframe. It is therefore possible that sub-branches, which have a seasonal character or other cyclical variations, are over- or underrepresented.

The random samples of the job descriptions and analysis of all job implementations in the entire amount has broad coverage. Nonetheless, solely the medium of online vacancies is analyzed; Other potential medias such as print are left out and therefore recommended to take into consideration in further investigations. In addition to that solely job descriptions of academic job postings from online job platforms and internal homepages of all 1914 companies in the food sector in Germany were analyzed. Potential differences between academic and non-academic jobs were not considered. Hence, presupposed more time and capacity, selecting a broader random sample and include all levels of job descriptions could increase the grade of reliability.

Another important argument is to consider that organizations might not highlight the concept of sustainability in job descriptions because they believe it this is not the right medium or timing to be doing so. In ensuing all steps of the recruitment process are obtained, such as in a

personal interview, companies might refer to the concept of sustainability in other ways in other steps of the recruitment process

The focus of interest was on the food sector, which provides a deep insight within the recruitment process of a specific branch; Other industries in the production- or service sector might have different tendencies to refer to the concept of sustainability in their recruitment processes and have purposely not been considered in the work.

The broad field of Human Resource Management has several pillars. This research focuses on the Recruitment and Compensation. To find the complete relation between sustainability and HRM it could be necessary to investigate the other disciplines as Training & Development, Talent Management, work systems, deployment and potential downsizing.

The quantitative method of the first part of research gets deepened through qualitative approaches throughout the research process. It is also considerable to turn around the process and start with the expert interviews in order to generate the hypothesis. Nevertheless, it would have been interesting to compare the quantitative data from 2015 with those of 2018; such as potential changes and development. The variation, similarities and differences of the usage of the concept of sustainability within these three years would have been interesting to discover in terms of dynamics.

4.3 Guidelines for future research

The research gives a specific insight into the usage of the concept of sustainability in the recruitment process of the food sector in Germany, thereby indicating the level of influence the concept has in the sector. There are various components that could broaden the research and provide further information to future research; Since the first two content analyses are cross-sectional studies with a specific timeframe, it would be recommendable to investigate in a broader scope of a long-term study. This would allow to evaluate whether the importance of the appliance of the concept of sustainability differs throughout different time periods.

The indicators referring to the concept of sustainability are based on the triple- bottom-line concept; to have a more precise coverage of ecological, social and economical terms referring to sustainability were differentiated into 45 broader word units and terms. For future research it could be advisable to vary the amount and definitions of the word units and include additional terms reflecting the concept of sustainability. The personal interviews with the human resource (HR) managers of the market leaders in the food industry linked the topics of the usage of sustainable patterns, the compensation structure and the relation to sustainable aims and the long-term perspective of the field of human resource management and linkage to sustainability. It would be helpful to interview the rest of the five major global players in the market to gain a broader perspective. A potential expert focus group discussion with several human resource (HR) managers at the same time could give a in depth perspective.

Since the research exclusively focus on the food sector in Germany it is recommended to extend the research analysis to more business branches to compare and identify similarities and differences between various sectors. This would allow for a further analysis of why certain sectors are more aware of the usage of the concept sustainability, and ultimately apply the knowhow from one sector to another.

The research focuses on the two pillars: Recruitment and Compensation, of the broad spectrum of Human Resource Management. It is recommended to further investigate on the other disciplines as: Training, Development, Deployment and Downsizing whether and how the concept is sustainability is applied. In addition to that future research might consider the appliance of the concept of sustainability in other steps of the recruitment process such as assessment tests as well.

The interrelation between sustainability and compensation and benefit is researched based on the DAX 30 companies. A broader study that involves more companies and an international perspective by including globalized companies e.g. from NASDAQ could give a broader and a more universal perspective. The analysis of the DAX 30 companies on their official statement towards compensation and benefits and their relation to sustainability could be extended by implementing legislative structures as well; A political and legislative change towards e.g. a tax on emission would change the strategic focus of companies especially in the food sector drastically. Therefore, research on the current development of legislative, political and tax related components is considerable to be conducted and put into relation to compensation and benefits.

The research provides an insight of the linkage between sustainability and recruitment, sustainability and compensations and benefit and the understanding of sustainability in the human resource department of German food companies. Through a extension of the focused time period, extension of the industries and broaden up to all HRM disciplines a deeper understanding would be inducted between the Sustainability and HRM.

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