

Exploring a cause of irresponsible behavior within organizations

Abstract

CSR has evolved from a theoretical idea into a complex tool to increase a company's reputation and strengthen its competitive advantage. Many organizations implement corporate social responsibility (CSR) practices in order to prevent a disaster as Rana Plaza in 2013. Although many organizations implement CSR policies, corporate social irresponsibility (CSiR) keeps occurring. Therefore, the perspective of performing good behavior should be changed into avoiding the bad behavior. While CSR is a well-known topic in the academic world, CSiR is under-investigated. Therefore, this paper will focus on a potential root cause of CSiR, namely a tight labor market while investigating a remedy to cure the effect. This paper contributes to the existing literature by investigating a yet unexplored root cause for CSiR. After thoroughly investigating the existing literature, a quantitative analysis is executed in order to provide new knowledge for both managers and academia. The conclusions drawn can be used in business and also suggest new research directions.

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Introduction

Over the last decades, corporate responsibility (CR) has become more important within firms, and policies and practices focused on diversity, environmental impact, employee well-being, and human rights have been implemented widely (Bartosch & Raab, 2022). Although much literature is written on CR policy implementation and the expected outcomes, research on corporate social irresponsibility (CSiR) has remained in the background even though it is just as important (Lange & Washburn, 2012; Lin-Hi & Müller, 2013).

One famous example is the disaster at Rana Plaza in 2013 which still impacts employees ten years after the event showing the immense consequences of irresponsible behavior within firms (Butler & Begum, 2023). Another famous example is the well-known Volkswagen emission scandal in 2015 where the organization manipulated the emission results of a big part of their diesel engines on purpose (Hotten, 2015). Both are indicating the importance for organizations to implement CR practices in order to prevent such disasters, although this raises the question if CR implementation is truly enough for an organization in order to behave responsibly, considering the fact that organizations (e.g. Benetton, Mango and Volkswagen) linked to the disasters already adopted sustainability policies or followed ethical considerations in business decisions before the events occurred (Benetton, 2011; Mango, 2013; Volkswagen, 2009). This indicates that irresponsible behavior still exists while CR practices are implemented. Therefore, a better understanding of irresponsible behavior is the crucial base to prevent disasters from happening. Hence this study will investigate responsible behavior, not by investigating the CR side of the organization but rather the CSiR behavior.

Irresponsible activities are for example tax corruption, fraud, misconduct, which negatively impact sustainability, human rights, inequality and employee well-being (Bartosch & Raab, 2022). They can arise through multiple causes like maximizing profits or acquiring resources (Fiaschi et al., 2017; Greve et al., 2010; Lange & Washburn, 2012). But often when misconducts are being investigated a focus is put on investigating whether it is done intentionally by employees or whether organizations coax employees too much without controlling them (Greve et al., 2010). Organizations intentionally use decoupling by implementing CR practices to create a good image while not executing the actions (Bromley & Powell, 2012; Delmas & Burbano, 2011; Hengst et al., 2020).

Although CSiR does not only occur intentionally, but can also arise unintentionally due to CSR failures within an organization (Greve et al., 2010; Perks et al., 2013). It can also occur due to unawareness, a lack of interest and lack of skills (Fiaschi et al., 2017). The lack of skills could be a result of a tight labor market which in turn results in a shortage of skilled labor (Cappelli, 2015; Richardson, 2007; Stockard, 2019). A skill shortage can arise due to the current global war for talent; technologies are rapidly developing around the world which creates tensions across the globe to find labor which is equipped with the right skills (Espenshade, 1999). Considering the fact that a tight labor market is an environmental characteristic which an organization can't solve by itself, it is important to understand the negative outcomes and learn how to cope with these consequences (Fombrun, 1996). Facing a skill shortage can have detrimental effects on organizations because it will hamper the quality and quantity of their output, therefore the organization will not be able to meet the market demands (Martin, 2007; Richardson, 2007). Therefore, much literature indicates that training increases employee's skill levels and capabilities (Barney et al., 2001; De Stefano et al., 2018; Martin, 2007; Richardson, 2007; Stockard, 2019). This in turn leads to a higher productivity of the employees and a better competitive advantage for the organization (Aidah, 2013). This might be enough to overcome the skill shortage created by a tight labor market.

This all leads to the assumption that a tight labor market could be a condition for CSiR which would be an important finding as Fiaschi et al. (2017) advocate that more research is necessary on the circumstances in which CSiR occurs in order to be able to redeem it. Irresponsible behavior is currently an under-investigated topic and much literature has not tried to investigate the effect of a tight labor

market on irresponsible practices, therewith this research adds new knowledge to the already existing literature. Therefore, the objective of the research is to investigate whether the shortage of skilled labor due to a tight labor market affects the level of CSiR behavior of a firm and whether HR training can reduce that negative effect. In addition, the research will use HR training for employees in order to outline whether training might be able to decrease the effect of a tight labor market on the level of irresponsible behavior. Hence the following research question has been formulated:

Does the current shortage of qualified employees in a tight labor market increase the level of irresponsible behavior within an organization and could HR training diminish the effect?

By answering the above research question, this research will contribute to the already existing literature. Much literature is written on the responsible practices, therewith the irresponsible behavior of organizations remains less explored (Lange & Washburn, 2012; Lin-Hi & Müller, 2013). In addition, valuable knowledge will be created on the root cause of CSiR. Therefore, this study will create new knowledge in an under-investigated area, and it creates a new direction for future research to build on. This in order to create a theory and understanding on specific circumstances in which CSiR is more likely to occur.

In addition, the study will provide a new insight in how irresponsible behavior rises within an organization, therefore, giving guidance to organizations what situations to avoid or to act if such a situation occurs. In addition, the relationship with HR training might create a positive factor for organizations operating under these tough conditions to deal with CSiR. The outcomes of this research can therefore contribute to policy makers which in turn can create policies to increase the amount and efficiency of training programs or educational systems.

In the upcoming chapter, the theoretical framework will be outlined in order to elucidate the fundamental concepts of this study. The definitions of the important concepts will be extensively discussed in order to create a better understanding of the following topics: Corporate irresponsible behavior, labor market shortages and HR training. In addition, the conceptual model will be presented along with the hypothesis of this study. Subsequently, the methodology section will delineate the procedures employed for data collection and analysis. Following this the findings will be presented, followed by an in-depth examination of the collected data and interpretations, accompanied by an assessment of the study's limitations and recommendations. The discussion section will critically evaluate the data and interpretations. Finally, the conclusion will present the new knowledge created by answering the research question.

Theoretical Framework

Irresponsible behavior

Much literature is written about irresponsible behavior and therefore, many different definitions exist. This is why the definition which suits the purpose of this research best has to be chosen. One definition of irresponsible behavior is that an organization which does not comply with the CSR expectations of the whole society is an organization which is showing irresponsible behavior (Armstrong & Green, 2013). CSiR is a mismatch between the organization and the society (Perks et al., 2013). Although, impartial observers of irresponsible behavior will judge this behavior within their cognitive limitations and biases, therefore the organization executing the behavior will be held responsible for it because of the company's moral obligation (Lange & Washburn, 2012). Other literature describes CSiR as the different goals between shareholders and other stakeholders, where observers are not impartial and irresponsible behavior is a perception created by groups who have an interest in the organization (Riera & Iborra, 2017). Meaning that not society decides what is CSiR but only the stakeholders.

The definition fitting best for the goals of this research is a combination of two definitions. Firstly, irresponsible behavior is behavior of an organization which negatively impacts stakeholders (Riera &

Iborra, 2017). This is wrongdoing because the organization is not acting according to the CSR expectations and laws of the society (Armstrong & Green, 2013). Therefore, CSiR actions are publicly known scandals which negatively impacted stakeholders/society. This because the focus of this research is on the occurrence of CSiR at multinational organizations which are publicly known.

The opinion about the root cause of CSiR is divided between literature. However, a clear distinction has to be made between intentionally and unintentionally caused harm because the judgement will be fiercer if the organization has done nothing to prevent it (Clark et al., 2022). For some interest groups there is a certain incentive to perform irresponsible behavior. This is affirmed by Pearce and Manz (2011) who describe CSiR as unethical behavior by executives, which involves not valuing the well-being of others. According to Pearce and Manz (2011) executives are prioritizing their own personal gain over the interests of employees, shareholders, stakeholders or the society. In addition, Riera & Iborra (2017) state that CSiR arises either from the deliberate business strategy of its leaders or from the lack of consideration for the future consequences of their actions. This leads to the strong perspective that CSiR are deliberate actions incentivized by personal gains rather than accidental/incompetent behavior (Greve et al., 2010; Lin-Hi & Müller, 2013; Pearce & Manz, 2011; Riera & Iborra, 2017). Armstrong & Green (2013) argue the opposite, namely that social desirable outcomes are not incentivized enough, making managers' temptation for CSiR bigger. These misconducts might also be influenced by culture which heavily influences the norms, values, and beliefs of employees (Greve et al., 2010).

Organizations that are focused on profit maximization are likely to be active in briberies to receive lucrative contracts for instance or to be able to dispose of their waste illegally in order to decrease their costs (Lin-Hi & Müller, 2013). In addition, large multinational corporations establish subsidiaries in countries with weaker commitments to social issues, therewith reducing costs, indicating the presence of CSiR (Fombrun, 1996). Big multinational organizations use the countries as a component of their company's profit-seeking strategy because the institutions are less developed, therewith often environmental issues not addressed. Whether such an expansion strategy should already be considered irresponsible behavior is discussable. CSiR is therefore a range of activities which could be cheating customers, fraud, misconduct, symbolic behavior, greenwashing, tax corruption, or negatively impact sustainability, human rights, inequality and employee well-being (Bartosch & Raab, 2022; Lin-Hi & Müller, 2013; Perks et al., 2013).

Considering that CSiR behavior is unwanted and could have remarkable consequences for organizations, the assumption would be that different steps have to be undertaken in order to prevent such behavior (Clark et al., 2022). The implementation of codes of ethics that mandate fair treatment of stakeholders, coupled with the pursuit of long-term profitability, diminish the probability of making irresponsible decisions (Armstrong & Green, 2013). As can be seen in many organizations, CSR and ESG policies are increasingly implemented (Bartosch & Raab, 2022). However, other literature also indicates that CSiR can occur unintentionally. Simply creating a CSR policy and forcing it on the employees is not effective (Armstrong & Green, 2013; Clark et al., 2022). Thereby, the bounded rationality of organizational participants and the complexity of their task environments are increasing the chance of CSiR (Greve et al., 2010). In addition, CSR failures within an organization can also arise CSiR (Greve et al., 2010; Perks et al., 2013).

But also the environment in which an organization is operating does effect the possibility of CSiR (Fombrun, 1996; Lin-Hi & Müller, 2013). One environmental aspect which is investigated in this research is a tight labor market. In many countries organizations are constantly dealing with labor market shortages which are created by a tight labor market and are expected to increase due to the growing economy (Stockard, 2019). A tight labor market is a situation where many organizations seek new employees to fill their vacancies while there are not enough people for the jobs, resulting in a mismatch between demand and supply of labor (Martin, 2007; Richardson, 2007).

A skill shortage can arise due to the current global war for talent; technologies are rapidly developing around the world which creates tensions across the globe to find labor that is equipped with the right skills (Espenshade, 1999). Because there is such high demand for labor, a low unemployment rate will make organizations face the increased challenge of finding good personnel due to limited supply of labor, but even in times of relatively high unemployment, employers frequently cite skills shortages as one of the business difficulties they face (Martin, 2007; Richardson, 2007). Although a skill shortage could also arise from job specific characteristics and not only through economic forces, some jobs are simply not attractive for new generations, therefore, if older employees retire, no skilled labor can be found to replace these employees (Stockard, 2019).

Facing a skill shortage can have detrimental effects on organizations because it will hamper the quality and quantity of their output, therefore the organization will not be able to meet the market demands (Martin, 2007; Richardson, 2007). This can be explained through the scope of the resource based view (RBV) of an organization. The RBV states that firms can gain sustainable competitive advantage (SCA) by obtaining and leveraging their resources adequately which is crucial for organizations to survive (Barney, 1991). This is because the resources which create the competitive advantage between firms are heterogeneous and are not perfectly mobile, resulting in firms being able to leverage their advantage over a long period of time (Lockett et al., 2009). These assets and capabilities can be seen as collections of both tangible and intangible elements, encompassing a company's managerial expertise, its organizational procedures and habits, and the data and insights it possesses (Barney et al., 2001). Capabilities can be defined as a set of substantive rules and routines used by top management (Mahoney & Pandian, 1992).

A specific source of SCA is an organization's positive reputation which is based on the organization's history and cannot be copied by other organizations (Barney, 1991). This again underlines the importance of preventing CSiR practices at organizations and the call for CSR. Highlighting employees as crucial to a company's triumph has then in turn led to the intertwining and merging strategy and human resource management (Barney et al., 2001). Other firm specific resources which could create SCA are physical capital resources, human capital resources and organizational capital resources (Barney, 1991).

In this research, the human capital resource will be explored in depth because the focus of this research is on skill shortages, and non-competence of employees, therewith, aligning with the definition of human capital resources. Barney (1991) defines the human capital resources as follows:

"Human capital resources include the training, experience, judgement, intelligence, relationships, and insights of individual managers and workers in a firm." (p. 101)

In order to achieve a sustained competitive advantage the resources of the firm should be valuable, rare, imperfectly imitable, or no strategically equivalent substitute (Barney, 1991). These characteristics can in turn be applied to the human capital resource.

Valuable resources

Resources are considered as valuable if they convince an organization to implement more efficient or effective strategies (Barney, 1991). Meaning that the human capital should be able to make good judgments based on correct intelligence, experience, training and with the assistance of good relationships. A skill shortage will arise in the case of a tight labor market which will create significant friction in the process of being able to create such a judgment. Considering that employees might be hired without proper training and skill set, implementing a more efficient and effective strategy might be viewed as an impossible task.

Rare resources

Organizations that want to obtain a SCA should strive to implement value creating strategies which are not simultaneously implemented at competing firms (Barney, 1991). Such a strategy can contain a

particular bundle of physical capital, human capital and organizational capital resources. In turn, this would also confirm the statement that simply implementing CSR practices is not enough for an organization to exclude misconducts because many organizations have implemented CSR (Armstrong & Green, 2013; Clark et al., 2022). The element which creates a true advantage should be heterogeneous and difficult to transfer across organizations, hence the human capital resource should be trained within the organization in order to gain the valuable intelligence needed for an organization to survive (Barney, 1991). In addition, even if organizations are able to successfully use their intangible assets, it could not disentangle them from the skills and knowledge of the managerial team (Mahoney & Pandian, 1992) which in turn shows the urgency for trained personnel.

Imperfectly imitable resources

RBV also underlines the importance for organizations to understand their history. Competitive strategies can only become CSA if an organization knows its history and adjusts itself accordingly (Barney, 1991). An organization is directly built on its history because the previous decisions made by top management are in the genetics of the firm (Mahoney & Pandian, 1992). If an organization forms itself to its history, it automatically differentiates itself from other organizations because the history between firms is different, therefore, making its strategy non-imitable for other organizations. In addition, non-tangible assets might be more difficult to imitate. Most successful companies across various industries possess at least one form of intangible asset, such as technological expertise, patented processes or designs, knowledge shared among staff, and marketing assets (Mahoney & Pandian, 1992). Thereby, Havere & Nawawi (2018) state: *“It is recognized that human resources is a source of competitive advantage of the most dominant and never outdated, meaning the organization's success in managing human resources in order to have a standard of competence required will produce a competitive advantage that is not easily imitated by competitors.”* (p. 9)

No strategically equivalent substitute

The resources of organizations should not be substitutable by any other product, in the case of misconducts and CSiR, this might be difficult to define. According to Barney (1991) organizations which want to copy resource and strategy from others should not be able to do so because the link between this resource and the strategy is unclear due to imperfect information. CSR practices seem to be hard to codify and therefore easy to copy. While specific human resource management practices can be replicated, the systems and routines of HR that evolve over time within a company can be distinct and an aid in cultivating specialized human capital skills (Barney et al., 2001). In addition, the concept of social complexity is in order, meaning that the exact ground for the competitive advantage (in this case in HR) is difficult to understand due to the complex social phenomena (Barney, 1991). In order to create the human capital needed to create such a non-imitable strategy, firm-specific knowledge is necessary (Mahoney & Pandian, 1992) which could be derived from inhouse firm-specific HR training (Barney et al., 2001).

Considering that tight labor markets will arise and might only become more intense, organizations will have to deal with employees that do not have the right skillset (Stockard, 2019). Facing a skill shortage will decrease the quality and quantity of their output, therewith the organization will not be able to meet the market demands (Martin, 2007; Richardson, 2007). Because the organizations will not be able to create a SCA, the survival of the organization is at stake (Barney, 1991). Therefore, specialized training is necessary in order to decrease the effects of the skill shortage, therewith decreasing the change of CSiR (De Stefano et al., 2018). In the upcoming chapter, HR training will be discussed in order to understand how such training could be able to affect the behavior of an organization.

HR training

HR training is described as an ongoing process in which workers learn skills, attitudes, and behaviors required to carry out the job effectively while continually adapting to societal changes and advancements in science and technology (Havera & Nawawi, 2018). This definition suits well with the core of this

study, namely that a shortage in employee competencies could be overcome by HR training. Therefore, this definition is applied as the theoretical definition for this research.

It's crucial to promote on-the-job training and apprenticeship programs to enable workers to acquire the essential skills required for advancing their careers (Stockard, 2019). Much literature indicates that training increases employees skill level and capabilities (Barney et al., 2001; De Stefano et al., 2018; Martin, 2007; Richardson, 2007; Stockard, 2019). This leads in turn to a higher productivity of the employees and a better competitive advantage for the organization (Aidah, 2013). Therewith, organizations that train their employees on the job while making sure they have access to the right technologies needed for the job, could decrease the effect of skill shortages (Richardson, 2007). More specifically, HR training is important because employees working with HR practices play a very important role in formulating strategic plans which is the basis for new training programs and activities of the organization (Havera & Nawawi, 2018). In this study, HR training could decrease the relationship between a skill shortage and CSiR but first literature has to be consulted to create an understanding of how HR training could influence both concepts.

Some literature describes CSiR as deliberate actions incentivized by personal gains (Greve et al., 2010; Lin-Hi & Müller, 2013; Pearce & Manz, 2011; Riera & Iborra, 2017). In addition, Greve et al., 2010 state that organizational misconducts are heavily influenced by culture while Riera & Iborra (2017) state that CSiR arises from the lack of long term strategic decisions. These issues could be solved by taking an HR 'process' approach which is primarily focused on training, communication, recruiting, compensation, performance appraisal, development programs (Lam & Khare, 2010). Organizations would then take a critical stance in performance appraisal and would be able to decrease the incentives to CSiR. In addition, HR training helps to reduce CSiR because it directs the organizational behavior, values and philosophy into a more sustainable approach (De Stefano et al., 2018). Thereby, HR will help employees to create a long term vision based on ethics rather than short term unethical decision making (Wright & Snell, 2005). Or as stated by Havera & Nawawi (2018): *"Training is not only able to increase the Knowledge, Skill, and Attitude and the competence of individual employees, but more importantly training can improve morale."* (p. 10). If the morale of the employees would change positively, the chance of CSiR would decrease (Aidah, 2013).

Other literature describe CSiR as an accident due to CSR failures within an organization (Greve et al., 2010; Perks et al., 2013). The likelihood of CSiR increases if CSR is forced onto the employees (Armstrong & Green, 2013). Although, the bounded rationality of organizational participants and the complexity of their task environments are increasing the chance of CSiR (Greve et al., 2010). These issues could again be solved through a HR 'process' approach which increases employee involvement and empowerment rather than forcing certain HR principles on employees (Lam & Khare, 2010). If organizations give training while involving and empowering the employees the whole mindset of the employees could change and therewith their morale (Aidah, 2013; Havera & Nawawi, 2018). In addition, much literature indicates that training increases employees' skill levels and capabilities (Barney et al., 2001; De Stefano et al., 2018; Martin, 2007; Richardson, 2007; Stockard, 2019), therewith decreasing the burden of bounded rationality. Afterwards, performance management should audit whether employees act accordingly (Havera & Nawawi, 2018).

While examining the issues which appear while looking at employees as valuable resources to an organization, i.e. the resource based view, HR training could again offer possible solutions. Human capital is valuable if employees are able to make good judgments based on correct intelligence, experience, training and with the assistance of good relationships (Barney, 1991). As training increases employees' skill levels and capabilities (Aidah, 2013; Barney et al., 2001; De Stefano et al., 2018; Martin, 2007; Richardson, 2007; Stockard, 2019), employees also benefit from internal relationships with others who have and share knowledge, making the employees better prepared to act swiftly upon opportunities (Havera & Nawawi, 2018). The fact that employees are indeed a valuable resource to an organization becomes clear from poaching in a tight labor market, which means that skilled employees

leave the organization for another firm due to better offers (Martin, 2007). HR training is proven to increase the availability and quality of personnel (Aidah, 2013).

The true element of making human capital a rare resource is to train the employees so the advantage becomes heterogeneous and difficult to transfer across organizations (Barney, 1991). This is because even if organizations succeed in using their intangible assets successfully, they cannot separate them from the skills and knowledge of the management team (Mahoney & Pandian, 1992). Therefore, simply creating a CSR policy is not sufficient. In order to create a rare knowledge advantage, scholar knowledge should be combined with an organizational training in order to be able to decrease the skill shortage (Havera & Nawawi, 2018; Stockard, 2019). HR training can be fulfilled in two ways: either on-the-job by rotations, coaching and mentoring or off-the-job training by means of conferences or role playing (Aidah, 2013). In this research a successful training of the personnel would be achieved if the skill shortages created by a tight labor market are overcome, which in this case might be best achieved via on-the-job training (Richardson, 2007). Thereby, the knowledge is not easily transferable to other organizations leading to human capital which is rare for other organizations (Barney, 1991). This is because the systems and routines of HR that evolve over time within a company can be distinct and aid in cultivating specialized human capital skills (Barney et al., 2001).

In addition, organizations should use decision making based on their history, this immediately differentiates itself from organizations which want to copy them (Barney, 1991). By training employees on-the-job, you also differentiate from other organizations because it involves having the more experienced employees coach the less experienced employees (Aidah, 2013), thereby including the history of the organizations decision making in the training which is important to distance yourself from the competition (Mahoney & Pandian, 1992). This will in turn lead to imperfect imitable resources, which can't be easily copied by other organizations and therefore creates a sustainable competitive advantage which is necessary for organizations to survive (Barney, 1991).

As outlined, HR training could prevent issues which arise from a tight labor market and CSiR. This is because training increases employees' skill levels and capabilities (Barney et al., 2001; De Stefano et al., 2018; Martin, 2007; Richardson, 2007; Stockard, 2019). In addition, by training employees on-the-job, an organization is also able to differentiate itself from other organizations (Aidah, 2013; Barney et al., 2001; Richardson, 2007) which makes the human capital harder to copy by competitors, therewith, making it possible to gain a sustainable competitive advantage (Barney, 1991). In the next chapter, the contextual model will be presented and the hypothesized relationships will be outlined.

Conceptual model

After having studied the different related concepts to this research, three variables have been created. The variables used in this research will be irresponsible behavior, tight labor market and HR training. These variables will be used in order to create a clear understanding of the underlying effects of the concepts.

The independent variable 'tight labor market' is expected to positively affect the dependent variable 'irresponsible behavior'. This is based on the assumption that if there is high demand for labor, but only little supply, finding good personnel can be difficult (Martin, 2007; Richardson, 2007). A tight labor market creates a skill shortage which can have detrimental effects on organizations because it will hamper the quality and quantity of their output, consequently the organization will not be able to meet the market demands (Martin, 2007; Richardson, 2007). In addition, due to the absence of the right set of skills, employees might not be able to make the right decisions which in turn could lead to CSiR (Havera & Nawawi, 2018).

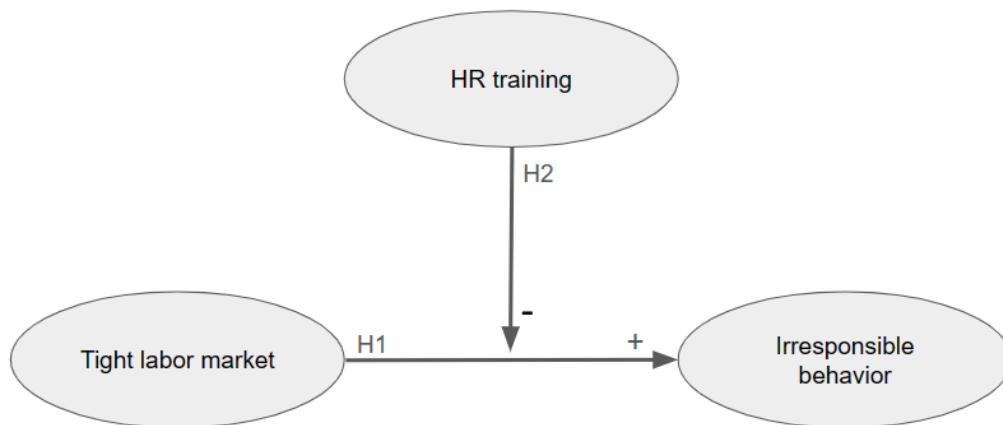
Looking at other approaches, organizations might also be able to decrease the chance of irresponsible behavior by training their employees via internal HR training (Aidah, 2013; De Stefano et al., 2018; Havera & Nawawi, 2018; Wright & Snell, 2005). Therefore, HR training will be the moderating variable

which negatively impacts the effect of a ‘tight labor market’ on ‘irresponsible behavior’. If organizations train their employees well via HR training, this will lead to an increase of their skills and capabilities (Barney et al., 2001; De Stefano et al., 2018; Martin, 2007; Richardson, 2007; Stockard, 2019). This decreases the effects of non-compatible personnel, because if they are better trained they should be able to make better decisions, and in conclusion the chance of CSiR decreases. Thus, the following hypotheses have been created:

Hypothesis 1: Irresponsible behavior within organizations will occur more often when organizations are in a tight labor market due to skill shortages.

Hypothesis 2: Organizations which offer their employees internal HR training will be able to decrease the effect of a tight labor market on irresponsible behavior.

A conceptual model has been created in order to visualize the relationships between the variables:



In the next chapter, the methodological considerations will be outlined. These decisions will clearly describe how the research will be conducted and therewith, how the conceptual model can be operationalized and tested.

Methodology

Research-design

The goal of this research has been to explore whether a tight labor market could increase CSiR due to the skill shortage of underqualified employees. In order to solve this research problem, a possible solution has been offered which was ‘HR training’. Therefore, the research problem has been tested under the presence of HR training for employees to understand whether HR training could be used as a possible remedy. It is important to outline that this research investigated the occurrence of CSiR over a certain period of time, namely the year 2020, requesting for numeric data (Hair et al., 2019). Multiple organizations were considered rather than a specific case which has been investigated thoroughly. In addition, organizations are often not willing to speak about CSiR practices which occur within their own organization (Bartosch & Raab, 2022). Therefore, if organizations are not willing to share information about CSiR, a quantitative approach would be more appropriate because the total occurrence of CSiR at organizations which have surfaced can be tracked over time. This would solve the issue of organizations which do not want to give insights about CSiR and offers numeric data which creates the possibility to measure CSiR over the time period of 2020. Consequently, quantitative data was used to assess how often CSiR occurred at multiple organizations within a country during a period of a tight labor market.

Afterwards, the quantified variable ‘HR training’ was added in order to investigate whether a higher level of HR training would decrease the negative effect of a tight labor market on CSiR. Therefore, the focus of this research has been on the occurrence of CSiR rather than creating a new understanding of the concept, therefore a quantitative approach was more suitable (Hair et al., 2019). While the outcomes and theories were written down, the Zotero referencing machine has been used in order to create references and the reference list.

Data collection

All the data used in this research has been secondary data obtained through four different sources. All four data sources were specifically used to explain one concept in this research. The first data sheet has been obtained through Reprisk which is a research organization specialized in ESG data. The data has been collected at the start of the research and the most recent data offered by Reprisk was of the year 2020, therefore, the research will be executed for the year 2020. The Reprisk data extracted, offered a list of 733 names of organizations from multiple countries (AN, AT, AU, AW, BB, BE, BMG, BRA, BWMB, CA, CH, CHE, DE, DK, ES, FI, FO, FR, GB, GRS, IE, IT, JE, JK, LU, MHY, N, NL, NO, PT, QU, QW, SE, US) including their ISIN codes. Thereby, a list of the total occurrences of CSiR per category (environmental, social, governance and cross cutting) were given per company. This data provided the quantitative information for the dependent variable irresponsible behavior and offered the possibility to be reformed into data which has been used in SPSS. The data on environment, social, governance and cross cuttings have been computed into one dependent variable which is the total sum of all CSiR occurrences per company. Although, an important consideration to take into account is that the Reprisk data is handled as true missings, meaning that organizations might have been active in CSiR which is not registered. CSiR is a topic which organizations rather avoid, therefore unregistered CSiR is considered as not existing.

The second data acquired was a survey requested by the European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs and coordinated by the Directorate-General for Communication. The relevant link has been added in appendix 1. Considering the Reprisk data has been of the year 2020, an intensive data search has been executed in order to find the European report on labor shortage 2020. Although, the search has been unsuccessful, and therefore the survey which was conducted between 11 September 2023 and 13 October 2023 has been used instead. The interviews have been conducted with decision-making personnel through telephone in the following countries:

- Coverage: EU27 + 8 non-EU countries (IS, NO, CH, UK, MK, CA, JP, US)
- Number of interviews (SMEs): 13 253 (EU27) / 3 925 (non-EU countries)
- Number of interviews (large companies): 855 (EU27) / 356 (non-EU countries)
- Total sample size per country: 250 in CY, IS, LU, MT; 600 in BE, CZ, DE, EL, ES, FR, IT, NL, PL, PT, RO, SE; 500 in all other countries

The survey offered the quantitative data for the independent variable ‘Tight labor market’. Question two of the research revealed how many organizations experience difficulties in hiring new employees per country. The question has five answer possibilities (very difficult, slightly difficult, not difficult, not relevant, don’t know) and are given as a percentage of all respondents in the specific country. The responses ‘very difficult’ and ‘slightly difficult’ were summed up and used as the percentage of companies that experience difficulties in hiring new employees with the right skills. Due to the fact that the data has been on country level, this could easily be combined with the data from Reprisk because the ISIN is also indicating the country initials. Therefore, the labor shortage percentage could be easily combined as a country percentage score with the Reprisk data.

In addition, question three has been used in order to replace the previous variable in case of non-significance. This data has been used to create independent variable % of companies searching longer than 6 months to fulfill vacancy. Question three states how long on average an organization needs to hire an employee with the right skills. There are seven answer options (x<1 month, 1 to 2 months, 3 to

5 months, 6 to 12 months, 1 to 2 years, x > 2 years, don't know) and all add up to 100% of the respondents in the specific country. The percentages between the options 6 to 12 months, 1 to 2 years, more than 2 years are summed up and indicate the percentage of all companies in a country which take longer than 6 months to find employees with the right skills. This again creates a variable on country level which can be combined with the Reprisk data.

The third data source used has been Eurostat (appendix 2). A research which tracks the employment rate per country has been accessed. Considering that the previous tight labor market data has not been available for the correct year 2020, the total employment rate per country in 2020 has been gathered. This in order increase the validity of the results. A high labor market participation could also indicate a tight labor market due to the fact that less people are available for new jobs. The research shows the total yearly employment rate of males and females combined between the age of 20 to 64 years. The employment rate is the percentage of the population of each of the twenty-seven European countries separate who have been active in the labor market in the year 2020.

The report from Eurostat offered the quantitative data for the independent variable 'employment rate' which has been used to increase the validity. Although, this variable is not the main objective, it is used to overcome the mismatch in data between 2020 and 2023, and the independent variable '2020 employment rate%' has been created.

Lastly, data has been gathered through the Refinitiv data base, which can be accessed through LSEG. LSEG is an organization which offers data on publicly traded organizations and financial markets. In the LSEG data base, data can be generated based on ISIN codes. Therefore, the ISIN codes of the organizations offered from the Reprisk data were placed in the data base in order to generate the HR training data for all the companies that Reprisk provides data for. The following data codes have been used to generate data for the independent variable (the moderator) 'HR training' for the year 2020 :

SOTDDPO18 - average training hours (average training hours per employee)

SOHSDP009 - Employee health & safety training hours (total company hours of training given)

ENRRDP008 - Environment management training (Did the organization provide the training, Y = yes or N = no)

SOHSDP0081 - Health & safety training (Did the organization provide the training, Y = yes or N = no)

SOTDDP024 - Management training (Did the organization provide the training, Y = yes or N = no)

SOTDDP0091 - Policy skills training (Did the organization provide the training, Y = yes or N = no)

SOHSDP0083 - Supply chain & safety training (Did the organization provide the training, Y = yes or N = no)

These variables offer the quantitative data needed for the variable HR training. And three independent variables were created namely: 'Average training hours', 'Employee health & safety training hours' and 'Total types of training offered'. Although, in order to conduct research without overestimating the variables used, control variables are introduced. The variables were also generated through the Refinitiv LSEG data base and were all used as independent variables which were not merged together into an aggregated variable.

*WCO8316 - Operating profit margin (Operating income / Net sales or revenues *100)*

WCO7011 - Employees (total number of employees)

WCO6010 - Industry code (1 = industrial 2 = utility 3 = transportation 4 = Bank/savings 5 = insurance 6 = Other financial)

ENSCORE – Environmental pillar score (weighted average relative rating based on environmental category scores (scores between 0-100))

CGSCORE – Governance pillar score (weighted average relative rating based on governance category scores (scores between 0-100))

SOSCORE – Social pillar score (weighted average relative rating based on social category scores (scores between 0-100))

Later also the underneath extra variables has been extracted:

WC02999 -Total assets (sum of total current assets, long term receivables, investment in unconsolidated subsidiaries, other investment, net property plant and equipment and other assets)

WC06011 – Industry group (represents a four digit numeric code assigned to the company to represent its industry group. Each company is classified into a major industry group, represented by the first two digits of the code. In addition each company is further classified within its major group into a subordinated industry group)

TRESGCGVSS – CSR strategy score (numeric data which reflects a company's practices to communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision making processes 0-100)

WC08301 – Return on equity (Net income / Average shareholders' equity)

These variables have not been chosen at random but are grounded in previous research. According to Johnson & Greening (1999) and Nardella et al., (2020) companies' ESG performance scores have been used as control variables. Environmental/governance/social pillar scores evaluate how well a company performs on ESG. The reason is that a strong presence of institutional investors may result in effective monitoring of the firm's activities (Nardella et al., 2020). Also CSR strategy score has been used as indicator for CSiR, considering that organizations use CSR to address CSiR a strong negative relationship would be expected (Kang et al., 2016). Therefore, these variables have been added as control variables along with the ESG pillar scores.

In addition, strong financial performance, indicated by high return on assets/equity, is often linked to the occurrence of CSiR (Chen et al., 2018). Effective strategizing, management, and efficient resource allocation are factors often linked to a strong reputation (Brammer & Pavelin, 2005; Roberts & Dowling, 2002). Therefore, if the control variables operating profit margin and return on equity were not added, the other variables might have been overestimated.

Lastly, firm size has proven to be a significant indicator of irresponsibility (Keig et al., 2015; Strike et al., 2006). Also industry code does significantly influence the occurrence of CSiR because specific industry characteristics influence an organization (Strike et al., 2006). Although, the first variable for industry code had a small amount of answer categories only, and is therefore during the analysis changed into industry group.

Data analysis

The data analysis has been executed in the SPSS program. Therefore, all the three data sources were transformed into variables in SPSS. After the data transfer, an univariate analysis has been conducted in order to assess whether any data is missing. According to Hair et al., (2019) the missing data is not allowed to exceed 10%, otherwise the outputs of the analysis will be affected. As can be seen in appendix 3, 'Employee health & safety training hours' variable missed almost 90% of the data. Considering that the variable is not crucial to explain the concept of HR training and other variables are also available, the complete variable has been deleted. Also the variable 'average training hours' (58,6%) and all the types of training offered variables (28,8%) were missing too much data. Therefore, all organizations with missing data were deleted.

The new sample size became 270 cases and with missing data < 10% on only five control variables (appendix 4). The ratio for the number of respondents in relation to the number of variables should be at minimum 5:1 and preferably 15 or 20 to 1 (Hair et al., 2019) which still is met.

Considering the types of training offered variables (environmental, management, health and safety, policy skills, supply chain) were of nominal measurement scale (answer options Y = yes N = no) these variables have been computed in one new independent variable 'total types of training offered'. If an organizations offered the type of training, it scored one, if not, it scored zero. This turned out to be a scale between 0 (lowest score, none of the trainings offered) or 5 (highest score, all types of training

offered. Now all variables are at metric level which is a requirement for GLM (Field, 2017; Hair et al., 2019).

After all the adjustments have been made, the variables were tested for the score on kurtosis and skewness. Appendix 4 indicated that the variables ‘number of employees’, ‘average training hours’ and ‘total occurrence CSiR’ scored too high on Skewness and Kurtosis. The Skewness should be between -2 and +2 and the Kurtosis between -3 and +3 which means the data is considered to be normally distributed (Field, 2017; Hair et al., 2019). Due to the high scores, the data was not considered to be normally distributed and a LOG10 transformation has been executed in order to decrease the scores. Appendix 5 indicates that even after the LOG 10 transformation still ‘LOG10 training hours’ and ‘operating profit margin’ scored too high on the Kurtosis. This meant that the data is peaking too much and therefore, the outliers of both variables have been deleted. The highest and lowest scores were removed until the Kurtosis reached an acceptable value, in total 13 values had to be deleted (appendix 6).

As all the data had been adjusted, the data had to be checked on correlations only. Independent variables which highly correlate both explain a overlapping part of the variance, therewith interrupting the results of the multiple linear regression (MLR) (Field, 2017; Hair et al., 2019). The correlation matrix in appendix 7 showed that the independent variables were not strongly correlated (strong correlation $> 0,7$) with one another, therefore no independent variable had to be deleted. The highest significant correlation measured was 0.524.

After all the adjustments, the MLR has been conducted. This because the goal of the research has been to predict and explain the effect of independent variables on the dependent variable which is also the objective of an linear regression analysis (Field, 2017; Hair et al., 2019). In addition, a MLR analysis has been executed because more than one independent variables were used to explain the dependent variable (Hair et al., 2019). Although, due to the fact that some data has been from 2023 and others from 2020, multiple analysis have been executed in order to increase the validity of the research. The findings of the MLR analysis can be used to forecast and predict the effects in the future. The results of the analysis will be extensively explained in the section analysis.

Research ethics

This research has been executed according to the five recommendations APA’s Science Directorate provided to help researchers steer clear of ethical quandaries (Smith, 2003):

1. Discuss intellectual property frankly
2. Be conscious of multiple roles
3. Follow informed consent rules
4. Respect confidentiality and privacy
5. Tap into ethics resources

The goal of this research was to create knowledge which contributes to existing literature or has a practical use for organizations. The societal benefits of researching the effect of a tight labor market on CSiR has therefore been purely theoretical and no other benefits were intended while creating this knowledge. At any moment in time this research could have been discontinued without further consequences.

During this research, much literature was used to build the argumentation and find the research gap which this research addressed. All the literature has been referenced according to the APA guidelines in order to clearly outline what the contribution of the literature has meant to this research. In addition, all steps during the quantitative analysis were extensively described and outcome changing errors have not been excluded. Otherwise, the research steps would have been inaccurate and therefore, the research could not have been tested or redone in the future. In addition, it was openly discussed that the secondary data used in this research has been obtained honestly and with the necessary approval. Considering that

only secondary data was used for the regression analysis, other participants were not consulted, which would have meant complying to the guarantees of confidentiality, the need to inform participants about the study results, and interviewees safety.

Analysis

At first an analysis has been conducted with only the dependent and independent variables without any control variables. This in order to see whether the variables would indeed affect the dependent variable although, the effect might be overstated. Therefore, afterwards a MLR analysis will be conducted with control variables to validate the results. Appendix 8, 9 and 10 all analyze the effect of one of the independent variables for labor market shortage, while the division into graph 1 and 2 divide between the training variables. Therefore, all possible combinations have been tested.

As can be seen in appendix 8, the variable (% difficult to find new staff) is insignificant and therefore isn't effecting the total occurrence of CSiR regardless of which training variable it has been paired with. Although, both training variables hold a significant value at $\alpha < 0.05$ ('total training types offered' (sig. 0.001) and 'LOG 10 training hours' (sig. 0.047)). In addition, the tolerance > 0.1 and VIF < 5 which means that multicollinearity does not disrupt the data (Field, 2017; Hair et al., 2019). But after including the interaction effect, the model becomes insignificant.

In appendix 9 similar results arise from the data. The variable 'employment rate 2020' is insignificant and therefore does not affect the total occurrence of CSiR. Although, both training variables are again significant at $\alpha < 0.05$ ('total training types offered' (sig. 0.001) and 'LOG 10 training hours' (sig. 0.021)). Again the tolerance > 0.1 and VIF < 5 which means that multicollinearity does not disrupt the data (Field, 2017; Hair et al., 2019). But after including the interaction effect, the whole model becomes insignificant. This again indicates the direct effect of training variables on occurrence of CSiR.

Appendix 10 displays that again both training variables are significant ($\alpha < 0.05$) although, also the labor shortage variable (% of companies searching longer than 6 months to fulfill vacancy) is significant (sig. 0.034) if the variable 'total types of training offered' (sig. 0.001) is added to the model. Again the tolerance > 0.1 and VIF < 5 which means that multicollinearity does not disrupt the data (Field, 2017; Hair et al., 2019). Although, if the interaction effect is added, the models become insignificant. The variable '% of companies searching longer than 6 months to fulfill vacancy' holds an unstandardized B of 0,012 which indicates that per every increase in the employment rate, the occurrence of CSiR will increase with 0,012. Although unexpectedly, the 'total types of training' holds an unstandardized B of 0,159, which indicates that the more different types of training given, the more CSiR occurs. Which would contradict hypothesis 2. But considering that no control variables are added, the effects can be overstated and therefore, the MLR analysis with control variables is conducted.

As can be seen in appendix 11, only the variable environmental pillar score (sig. 0,018) & LOG10 number of employees (sig. 0,001) score significantly on occurrence of CSiR, indicating that the previous relationship between 'training hours' and the dependent variable was overstated. Although, the adjusted r^2 is only 0,163 which means the model only explains roughly 16% of the variance on the dependent variable. This is considered to be a weak model (Field, 2017) and therefore, four extra independent control variables are added in order to increase the explained variance. The underneath control variables were added to the model:

LOG10 Total asset value (v35) (Nardella et al., 2020)

New industry value (v38) (Keig et al., 2015)

CSR strategy score (v37) (Kang et al., 2016)

Return on equity (v36) (Chen et al., 2018)

The MLR in appendix 12 shows the adjusted r^2 has increased to 0,347 which shows an improvement of 18,4%. Still the explained variance is not above 0,5 which would indicate a good level of explained variance (Field, 2017) but keep adding new control variables, will not increase the effects of the independent variables investigated. Therefore, no new variables will be added and the analysis will be continued.

The Durbin-Watson (DW) statistic is used to test for autocorrelation in the residuals of a statistical model or regression analysis. Values between 1.5 to 2.5 are considered normal, which is the case in the above given model summary (1,921). Homoscedasticity refers to a constant range of error terms for an independent variable, ensuring equal error is essential for the accurate application of regression analysis (Hair et al., 2005, p. 171). If there is no consistency in the error terms, the data will be heteroscedastic. To verify if the data is homoscedastic, the scatterplot should show any patterns in the residuals. A consistent pattern would indicate non-constant variance. However, as shown in the scatterplot, there is no evident pattern, such as a triangular shape, thus it can be concluded that the data is homoscedastic.

The tolerance scores are all above 0.1 and VIF below the 5 which means that multicollinearity does not disrupt the data (Field, 2017; Hair et al., 2019). In addition, the error term is normally distributed. In the histogram it can be observed that the data is normally distributed. The normal P-P plot of the standardized residuals should align around the diagonal line (Hair et al., 2019). In the P-P plot can be seen that the data forms around the line therewith confirming the normal distribution of the error terms.

The ANOVA test is significant (0,001) and hold a F (12,483) meaning that there are differences in the means between groups.

The coefficients table outlines the following results:

Control_LOG10_assets (sig. 0,001 / unstandardized B 0,250)

Control_Environment pillar score (sig. 0,037 / unstandardized B 0,005)

Control_Number of employees LOG10 (sig. 0,007 / unstandardized B 0,163)

To conclude, the standardized B effects are all positive and significant, meaning, the higher the score on either variable, the higher the score on occurrence of CSiR will be. Again, no significant effect is found for labor market shortage, and the effect of LOG10 training hours has disappeared after adding the control variables. After analyzing the MLR in combination with the interaction effect, no significant changes are found. Also after using other combinations of variables, (including ‘employment rate 2020’ and ‘total training types offered’) the results remained the same.

Although, the combination with variables ‘% of companies searching longer than 6 months to fulfill vacancy’ and ‘total types of training offered’ without any control variables, gave significant effects on the dependent variable. Therefore, also this model is tested in order to rule out whether the effect has been overestimated or remains significant. In appendix 13 the results of the model are given.

As can be seen, the adjusted r^2 increased with 0,001 to 0,348 and the ANOVA test is significant (0,001) and increased to a F value (12,577) meaning that there are differences in the means between groups. The Durbin-Watson (DW) statistic increased slightly to 1,926 but is still in the acceptable range.

The scatterplot visualizes similar results as in the previous model, there is no evident pattern, such as a triangular shape, thus heteroscedasticity is not an issue.

The tolerance scores are all above 0.1 and VIF below the 5 which means that multicollinearity does not disrupt the data (Field, 2017; Hair et al., 2019). The histogram displays normality of the data and in the P-P plot can be seen that the data does form around the line therewith confirming the normal distribution of the error terms.

The coefficients table outlines the following significant results:

LOG10_assets (sig. 0,001 / unstandardized B 0,249)
Environment pillar score (sig. 0,037 / unstandardized B 0,005)
Number of employees LOG10 (sig. 0,009 / unstandardized B 0,158)

The standardized B effects remain all positive and significant, and stayed the same or decreased slightly compared to the previous model. Again, the higher the score on the variable, the higher the score on occurrence of CSiR will be. The significant effects of ‘% of companies searching longer than 6 months to fulfill vacancy’ and ‘total types of training offered’ on the occurrence of CSiR have vanished after including control variables. Also, after running the model with an interaction effect, no significant changes are found.

Discussion & conclusion

The following three variables have been significantly tested before the control variables have been added to the model.

‘% of companies searching longer than 6 months to fulfill vacancy’ (sig. 0.034 & unstandardized B 0,012)

‘total types of training offered’ (sig. 0.001 & unstandardized B 0,159)

‘LOG 10 training hours’ (sig. 0.021 & unstandardized B 0,219)

All standardized B scores are positive which indicates that the higher the score is on either variable, the higher the chance of CSiR occurrence. This contradicts the hypothesis because the training variables were expected to decrease the occurrence of CSiR. All the variables became insignificant after inserting the interaction effect, therefore, it can be concluded that the effects are direct effects of the independent variable and the expected moderating effect does not exist.

After including the control variables, only the underneath three variables are significant:

Control_LOG10_assets (sig. 0,001 / unstandardized B 0,250)

Control_Environment pillar score (sig. 0,037 / unstandardized B 0,005)

Control_Number of employees LOG10 (sig. 0,007 / unstandardized B 0,163)

Even though the adjusted r^2 remains 34,8% and therefore the variance of CSiR is below the minimum wanted 50% which is considered good (Field, 2017; Hair et al., 2019). The fact that the data is not strongly linked to the dependent variable also outlines that there might be no relationship between the variables (Field, 2017). In addition, the ANOVA test remains significant, therewith indicating that the F value is not found by coincidence. Considering only control variables are significant reveals the previous independent variables have been overstated. Therefore, the relationship between the independent variables tested and the dependent variable is considered invalid if control variables are added. The control variables indicate that the bigger an organization is, the higher the occurrence of CSiR. This also confirms previous research which used these three variables because they would affect CSiR (Johnson & Greening, 1999; Keig et al., 2015; Nardella et al., 2020; Strike et al., 2006). In addition, the data outlines that organizations which score high on their CSR environmental score, also score higher on CSiR.

This data therefore rejects hypothesis 1 because irresponsible behavior within organizations does not occur more often when organizations are in a tight labor market due to skill shortages. The data does imply that organizations which search longer than 6 months for employees have a higher score on CSiR, although, after including control variables the effect is insignificant. Therefore, the effect has been overstated in the previous model and a tight labor market does not affect the occurrence of CSiR.

In addition, hypothesis 2 is rejected because organizations which offer their employees internal HR training are not able to decrease the effect of a tight labor market on irresponsible behavior. According to the outcome, the CSiR occurrence only increases the more training hours and training types are given.

Therefore, the effect on CSiR is not a decreasing moderating effect but a direct positively increasing effect. Although, after the control variables have been added, the result became insignificant and therefore, training can be perceived as having no impact on CSiR.

Therewith, the main research question can be answered:

Does the current shortage of qualified employees in a tight labor market increase the level of irresponsible behavior within an organization and could HR training diminish the effect?

According to the data, a shortage in qualified employees in a tight labor market does not affect the occurrence of CSiR. In addition, when interaction effects were added, the variables all became insignificant therefore a moderating effect of training does not exist. Therefore, training is unable to decrease the effect of a tight labor market on CSiR. In addition, only if no control variables are added, a direct effect is measured although this states that the more training is given, the more CSiR occurs. But the effect is overstated due to the absence of control variables and should therefore not be considered as valid.

Although the data does not support the hypotheses, it still contributes to the existing literature. At first, the relationship between a tight labor market and CSiR is insignificant, which has not been investigated before. Therewith, new knowledge is created and the occurrence/root cause of CSiR is further explored. In addition, as previous research outlines that firm size has proven to be a significant indicator of irresponsibility (Keig et al., 2015; Strike et al., 2006) which is confirmed by the data. Thereby, organizations which score high on the environmental pillar also score high on CSiR which is counterintuitive. Although, this could be explained through the findings in previous research which state that organizations intentionally use decoupling by implementing CR practices to create a good image while not executing the actions (Bromley & Powell, 2012; Delmas & Burbano, 2011; Hengst et al., 2020; Kotchen & Moon, 2012).

This research contributes to a better understanding of the effect of a tight labor market on CSiR. Although not all the variance of CSiR is explained due to the fact that it also arises through other causes. Other literature described CSiR as deliberate actions incentivized by personal gains (Greve et al., 2010; Lin-Hi & Müller, 2013; Pearce & Manz, 2011; Riera & Iborra, 2017). Or as an accident due to CSR failures within an organization (Greve et al., 2010; Perks et al., 2013). Therefore, the model improved the understanding of specific root causes of CSiR rather than to explain all root causes of CSiR occurrences. In addition, different cultures are not taken into consideration during this research, therefore, HR training could have different effects across countries or employees' skills differ due to a different level of education. Another important consideration to take into account is that the Reprisk data is handled as true missings, meaning that organizations might have been active in CSiR which is not registered. But because CSiR is a topic which organizations rather avoid, unregistered CSiR is considered as not existing.

In addition, the labor market research has been conducted in 2023 while the training data and occurrence of CSiR were obtained from the year 2020. In order to increase the validity of the research, the research has been executed with the variable 'employment rate 2020'. This because if the employment rate is high, it indirectly indicates a tight labor market due to the fact that the most people in the country are working. Therewith, it is attempted to overcome the data differences and increase the validity of the research.

As research indicates, CSiR is a topic which is not as often investigated as CSR (Lange & Washburn, 2012; Lin-Hi & Müller, 2013). Future research should therefore investigate the root causes of CSiR in order to better understand the concept so it can be avoided in the future. By investigating CSR/ESG variables, it can be tested whether CR practices are indeed used to decouple. In addition, the model should be tested with all data gathered in the same year. This would improve the validity and confirm the conclusion that a tight labor market does indeed not affect CSiR.

Implications & reflection

The results of this research can be used by organizations' talent management teams. The results clearly indicate that CSiR does not increase if employees do not have the right skills for the job. Therefore, searching for a very long period of time in order to find the perfect candidate is not necessary in order to avoid CSiR. In addition, if personnel is hired that has a skill mismatch with the job requirements, an extensive training program will not prevent the occurrence of CSiR. This knowledge could therefore save potential time and money for an organization in their hiring process. Also, if policy makers want to decrease the occurrence of CSiR, that according to the data, by simply training people CSiR won't decrease and most likely will even increase slightly. Therefore, another approach should be taken like increasing social desirable outcomes, making managers' temptation for CSiR smaller (Armstrong & Green, 2013).

Researchers can investigate the outcomes of this research by starting new research on the conclusion that organizations which score high on the environmental pillar score also score higher on CSiR. As many literature is concluding, CSR and ESG are used by organizations in order to decrease CSiR, therefore, the finding that an increased ESG pillar score leads to more CSiR is conflicting. In addition, the research concludes that a tight labor market does not affect the occurrence of CSiR, therefore other variables should be investigated to create a better understanding of how CSiR arises in order to prevent the occurrence of it. In addition, this research can be executed and reproduced in the future with data that comes from the same year in order to validate and confirm the conclusions made in this research.

The research design chosen has proven to be useful for the investigation of the relationship between the variables. Due to the fact that CSiR is a topic which organizations rather avoid due to reputational damage (Bartosch & Raab, 2022), a quantitative analysis has proven to be able to gather the data needed. In addition, the data has not been manipulated because no party of interest has been interviewed and all the data is public and freely accessible. Therefore, the data is valid and not enhanced in order to decrease reputational risks. In addition, no personal connection has been created between the researcher and the organization therewith increasing the objectivity. Thereby, many multinational organizations from multiple countries have been investigated which fits better with a quantitative approach rather than qualitative.

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Appendices

Appendix 1: European Survey – Skill shortages

[SMEs and skills shortages - november 2023 - - Eurobarometer survey \(europa.eu\)](https://ec.europa.eu/eurobarometer/surveys/index.cfm?id=682)

Appendix 2: Eurostat – Employment rate

[Statistics | Eurostat \(europa.eu\)](https://ec.europa.eu/eurostat/tgm/table.do?tab=table)

Appendix 3: Missing data analysis

Univariate Statistics

	N	Mean	Std. Deviation	Missing		No. of Extremes ^a	
				Count	Percent	Low	High
ENVIRONMENT_t	660	3,27	10,615	0	,0	0	96
SOCIAL_t	660	3,86	8,909	0	,0	0	74
GOVERNANCE_t	660	4,23	10,423	0	,0	0	62
CROSS_CUTTING_t	660	5,88	13,726	0	,0	0	84
AVERAGE_TRAINING_HOURS	273	22,1422	25,13396	387	58,6	0	14
EMPLOYEE_HEALTH_AND_SAFETY_TRAINING_HOURS_TOTAL	70	167414,9019	332558,16183	590	89,4	0	7
ENVIRONMENT_MANAGEMENT_TRAINING	470			190	28,8		
MANAGEMENT_TRAINING	470			190	28,8		
HEALTH_AND_SAFETY_TRAINING	470			190	28,8		
POLICY_SKILLS_TRAINING	470			190	28,8		
SUPPLY_CHAIN_HEALTH_AND_SAFETY_TRAINING	470			190	28,8		

a. Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).

Appendix 4: Skewness & Kurtosis 1

Statistics

		Control_Industry	Control_Number of employees	Control_Operating profit margin	Control_environment pillar score	Control_Governance pillar score	Control_Social pillar score	AVERAGE_TRAINING_HOURS	Total training types offered	Total occurrence CSIR per company	% difficult to find new staff
N	Valid	270	262	262	269	269	269	270	270	270	270
	Missing	0	8	8	1	1	1	0	0	0	0
Mean		1,89	49846,67	10,5197	71,6276	64,3233	77,2998	22,2382	4,1481	21,32	60,6074
Median		1,00	19280,00	8,1300	74,8000	69,9300	79,9100	16,3550	4,0000	6,00	67,0000
Mode		1	1162 ^a	2,59 ^a	42,53 ^a	42,29 ^a	51,66 ^a	9,00	4,00	2	67,00
Skewness		1,611	3,920	-,065	-,676	-,653	-,945	5,193	-,936	4,219	-,914
Std. Error of Skewness		,148	,150	,150	,149	,149	,149	,148	,148	,148	,148
Kurtosis		1,159	19,579	5,204	-,049	-,331	,718	35,560	1,488	20,042	-,696
Std. Error of Kurtosis		,295	,300	,300	,296	,296	,296	,295	,295	,295	,295
Sum		510	13059828	2756,15	19267,82	17302,96	20793,65	6004,31	1120,00	5757	16364,00

a. Multiple modes exist. The smallest value is shown

Appendix 5: Skewness & Kurtosis after LOG10

Statistics

		Control_Industry	Control_Operating profit margin	Control_environment pillar score	Control_Governance pillar score	Control_Social pillar score	% difficult to find new staff	Log10 training hours	Log10 total CSIR	Number of employees LOG10	Total training types offered
N	Valid	270	262	269	269	269	270	270	270	262	270
	Missing	0	8	1	1	1	0	0	0	8	0
Mean		1,89	10,5197	71,6276	64,3233	77,2998	60,6074	1,1945	,8740	4,2183	4,1481
Median		1,00	8,1300	74,8000	69,9300	79,9100	67,0000	1,2136	,7782	4,2851	4,0000
Mode		1	2,59 ^a	42,53 ^a	42,29 ^a	51,66 ^a	67,00	,95	,30	3,07 ^a	4,00
Skewness		1,611	-,065	-,676	-,653	-,945	-,914	-,822	,566	-,559	-,936
Std. Error of Skewness		,148	,150	,149	,149	,149	,148	,148	,148	,150	,148
Kurtosis		1,159	5,204	-,049	-,331	,718	-,696	3,589	-,105	,732	1,488
Std. Error of Kurtosis		,295	,300	,296	,296	,296	,295	,295	,295	,300	,295
Sum		510	2756,15	19267,82	17302,96	20793,65	16364,00	322,51	235,99	1105,21	1120,00

a. Multiple modes exist. The smallest value is shown

Appendix 6: Decreasing Kurtosis

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Control_Operating profit margin	257	95,2%	13	4,8%	270	100,0%
Log10 training hours	257	95,2%	13	4,8%	270	100,0%

Descriptives

	Statistic	Std. Error		
			Control_Operating profit margin	Mean
Control_Operating profit margin	95% Confidence Interval for Mean	Lower Bound	8,9967	
		Upper Bound	12,3269	
	5% Trimmed Mean		10,0618	
	Median		8,0900	
	Variance		183,743	
	Std. Deviation		13,55517	
	Minimum		-35,94	
	Maximum		58,31	
	Range		94,25	
	Interquartile Range		13,31	
Skewness		,743	,152	
Kurtosis		2,006	,303	
Log10 training hours	Mean	1,1965	,02266	
	95% Confidence Interval for Mean	Lower Bound	1,1518	
		Upper Bound	1,2411	
	5% Trimmed Mean		1,2086	
	Median		1,2106	
	Variance		,132	
	Std. Deviation		,36320	
	Minimum		-,52	
	Maximum		2,32	
	Range		2,84	
	Interquartile Range		,45	
	Skewness		-,681	,152
	Kurtosis		2,573	,303

Appendix 7: Correlations check

Correlations

		Control_LOG10 assets	Control_Industry groups	Control_CSR score	Control_Return on equity	Control_Social pillar score	Control_Governance pillar score	Control_environment pillar score	Control_Number of employees LOG10	Control_Operating profit margin	% difficult to find new staff	Log10 training hours
Control_LOG10 assets	Pearson Correlation	1	-,162*	,462**	,028	,385**	,325**	,445**	,508**	,070	,061	,272**
	Sig. (2-tailed)		,010	<,001	,668	<,001	<,001	<,001	<,001	,272	,337	<,001
	N	252	252	251	241	251	251	251	252	250	252	251
Control_Industry groups	Pearson Correlation	-,162*	1	-,081	,039	-,070	,001	-,091	-,121	-,003	,011	,005
	Sig. (2-tailed)	,010		,192	,542	,258	,986	,140	,050	,968	,859	,930
	N	252	262	261	250	261	261	261	262	259	262	260
Control_CSR score	Pearson Correlation	,462**	-,081	1	,082	,301**	,524**	,325**	,235**	,184**	-,271**	,169**
	Sig. (2-tailed)	<,001	,192		,199	<,001	<,001	<,001	<,001	,003	<,001	,006
	N	251	261	269	249	269	269	269	261	258	269	267
Control_Return on equity	Pearson Correlation	,028	,039	,082	1	-,107	,080	-,126*	-,028	,487**	-,094	-,032
	Sig. (2-tailed)	,668	,542	,199		,092	,211	,046	,662	<,001	,138	,615
	N	241	250	249	250	249	249	249	250	250	248	248
Control_Social pillar score	Pearson Correlation	,385**	-,070	,301**	-,107	1	,273**	,568**	,459**	-,115	,235**	,150**
	Sig. (2-tailed)	<,001	,258	<,001	,092		<,001	<,001	<,001	,065	<,001	,014
	N	251	261	269	249	269	269	269	261	258	269	267
Control_Governance pillar score	Pearson Correlation	,325**	,001	,524**	,080	,273**	1	,230**	,178**	,172**	-,234**	,137**
	Sig. (2-tailed)	<,001	,986	<,001	,211	<,001		<,001	,004	,006	<,001	,026
	N	251	261	269	249	269	269	269	261	258	269	267
Control_environment pillar score	Pearson Correlation	,445**	-,091	,325**	-,126*	,568**	,230**	1	,445**	-,117	,130*	,080
	Sig. (2-tailed)	<,001	,140	<,001	,046	<,001	<,001	<,001	<,001	,060	,033	,190
	N	251	261	269	249	269	269	269	261	258	269	267
Control_Number of employees LOG10	Pearson Correlation	,508**	-,121	,235**	-,028	,459**	,178**	,445**	1	-,368**	,159	,057
	Sig. (2-tailed)	<,001	,050	<,001	,662	<,001	,004	<,001		<,001	,010	,362
	N	252	262	261	250	261	261	261	262	259	262	260
Control_Operating profit margin	Pearson Correlation	,070	-,003	,184**	,487**	-,115	,172**	-,117	-,368**	1	-,212**	,144*
	Sig. (2-tailed)	,272	,968	,003	<,001	,065	,006	,060	<,001		<,001	,021
	N	250	259	258	250	250	250	250	259	259	259	257
% difficult to find new staff	Pearson Correlation	,061	,011	-,271**	-,094	,235**	-,234**	,130	,159	-,212**	1	,067
	Sig. (2-tailed)	,337	,859	<,001	,138	<,001	<,001	,033	,010	<,001		,275
	N	252	262	269	250	269	269	269	262	259	270	268
Log10 training hours	Pearson Correlation	,272**	,005	,169**	-,032	,150*	,137*	,080	,057	,144*	,067	1
	Sig. (2-tailed)	<,001	,930	,006	,615	,014	,026	,190	,362	,021	,275	
	N	251	260	267	248	267	267	267	260	257	268	268

*. Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Appendix 8: Regression with variable % difficult to find new staff

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,649	,117		5,558	<,001		
	Log10 training hours	,188	,093	,122	2,017	,045	1,000	1,000

a. Dependent Variable: Log10 total CSIR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,817	,219		3,736	<,001		
	% difficult to find new staff	,001	,004	,016	,265	,791	1,000	1,000

a. Dependent Variable: Log10 total CSIR

Graph 1 (with variable Log 10 training hours):

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,637	,235		2,707	,007		
	% difficult to find new staff	,000	,004	,004	,060	,952	,989	1,011
	Log10 training hours	,187	,094	,122	1,997	,047	,989	1,011

a. Dependent Variable: Log10 total CSIR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1,172	,580		2,021	,044		
	% difficult to find new staff	-,009	,010	-,160	-,923	,357	,122	8,177
	Log10 training hours	-,271	,464	-,176	-,584	,560	,040	24,727
	v22_interaction	,008	,008	,360	1,008	,314	,029	34,560

a. Dependent Variable: Log10 total CSIR

Graph 2 (with variable total training types offered):

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,249	,275		,906	,365		
	% difficult to find new staff	3,947E-5	,004	,001	,011	,991	,994	1,006
	Total training types offered	,150	,045	,199	3,314	,001	,994	1,006

a. Dependent Variable: Log10 total CSIR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1,018	1,051		,969	,334		
	% difficult to find new staff	-,013	,018	-,228	-,741	,459	,038	26,264
	Total training types offered	-,038	,252	-,050	-,150	,881	,032	31,048
	interactionv2v21	,003	,004	,354	,758	,449	,017	60,582

a. Dependent Variable: Log10 total CSIR

Appendix 9: Regression with variable employment rate 2020

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,473	,337		1,405	,161		
	2020 employment rate%	,006	,005	,073	1,198	,232	1,000	1,000

a. Dependent Variable: Log10 total CSIR

Graph 1 (with variable LOG 10 training hours):

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,054	,380		,141	,888		
	2020 employment rate%	,008	,005	,102	1,647	,101	,960	1,042
	Log10 training hours	,219	,095	,143	2,313	,021	,960	1,042

a. Dependent Variable: Log10 total CSIR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-,387	1,185		-,327	,744		
	2020 employment rate%	,014	,017	,180	,859	,391	,083	12,041
	Log10 training hours	,577	,916	,375	,630	,529	,010	96,891
	Interaction v18 * log10v9	-,005	,013	-,232	-,393	,695	,011	94,816

a. Dependent Variable: Log10 total CSIR

Graph 2 (with variable total training types offered):

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-,367	,405		-,905	,366		
	2020 employment rate%	,008	,005	,104	1,725	,086	,979	1,021
	Total training types offered	,161	,045	,214	3,557	<,001	,979	1,021

a. Dependent Variable: Log10 total CSIR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1,285	2,149		-,598	,551		
	2020 employment rate%	,021	,030	,267	,703	,483	,025	40,358
	Total training types offered	,377	,499	,501	,757	,450	,008	122,902
	Interaction v18 * v21	-,003	,007	-,310	-,435	,664	,007	142,212

a. Dependent Variable: Log10 total CSIR

Appendix 10: Regression with variable % of companies searching longer than 6 months to fulfill vacancy

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,639	,137		4,660	<,001		
	% of companies searching longer than 6 months to fulfill vacancy	,010	,006	,108	1,771	,078	1,000	1,000

a. Dependent Variable: Log10 total CSiR

Graph 1 (with variable Log 10 training hours):

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,405	,177		2,284	,023		
	% of companies searching longer than 6 months to fulfill vacancy	,010	,006	,110	1,822	,070	1,000	1,000
	Log10 training hours	,191	,093	,124	2,062	,040	1,000	1,000

a. Dependent Variable: Log10 total CSiR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,663	,376		1,763	,079		
	% of companies searching longer than 6 months to fulfill vacancy	-,002	,017	-,024	-,132	,895	,109	9,164
	Log10 training hours	-,027	,296	-,018	-,092	,927	,098	10,162
	Interaction v23 * v9_LOG	,011	,014	,199	,777	,438	,056	17,982

a. Dependent Variable: Log10 total CSiR

Graph 2 (with variable total training types offered):

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-,065	,240		-,271	,787		
	Total training types offered	,159	,045	,211	3,540	<,001	,991	1,009
	% of companies searching longer than 6 months to fulfill vacancy	,012	,006	,128	2,136	,034	,991	1,009

a. Dependent Variable: Log10 total CSiR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,022	,623		,035	,972		
	Total training types offered	,138	,148	,183	,929	,354	,091	10,938
	% of companies searching longer than 6 months to fulfill vacancy	,008	,025	,087	,320	,749	,048	20,978
	v25_interaction	,001	,006	,048	,152	,880	,035	28,228

a. Dependent Variable: Log10 total CSiR

Appendix 11: Multiple linear regression 1

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	,434 ^a	,189	,163	41,840	,189	7,329	8	252	<,001

a. Predictors: (Constant), Log10 training hours, Number of employees LOG10, % difficult to find new staff, Control_Industry, Control_Governance pillar score, Control_Operating profit margin, Control_environment pillar score, Control_Social pillar score

b. Dependent Variable: Total occurrence CSiR per company

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	102634,343	8	12829,293	7,329	<,001 ^b
	Residual	441145,412	252	1750,577		
	Total	543779,755	260			

a. Dependent Variable: Total occurrence CSiR per company

b. Predictors: (Constant), Log10 training hours, Number of employees LOG10, % difficult to find new staff, Control_Industry, Control_Governance pillar score, Control_Operating profit margin, Control_environment pillar score, Control_Social pillar score

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-108,882	24,613		-4,424	<,001		
	Control_Industry	1,480	1,803	,051	,821	,413	,835	1,198
	Control_Operating profit margin	,213	,187	,073	1,136	,257	,779	1,283
	Control_environment pillar score	,443	,185	,174	2,391	,018	,608	1,645
	Control_Governance pillar score	,231	,144	,103	1,603	,110	,773	1,294
	Control_Social pillar score	-,006	,250	-,002	-,023	,982	,557	1,795
	Number of employees LOG10	19,177	4,424	,309	4,335	<,001	,632	1,581
	% difficult to find new staff	,011	,288	,002	,037	,971	,804	1,243
	Log10 training hours	-2,318	7,144	-,020	-,325	,746	,890	1,123

a. Dependent Variable: Total occurrence CSiR per company

Appendix 12: MLR with extra control variables

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Durbin-Watson	
						F Change	df1	df2		
1	.614 ^a	.377	.247	.46488	.377	12,483	11	227	<.001	1,921

a. Predictors: (Constant), Control_Number of employees LOG10, Control_Return on equity, Log10 training hours, Control_Industry groups, % difficult to find new staff, Control_Governance pillar score, Control_environment pillar score, Control_CSR score, Control_Operating profit margin, Control_Social pillar score, Control_LOG10 assets

b. Dependent Variable: Log10 total CSIR

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29,676	11	2,698	12,483	<.001 ^b
	Residual	49,058	227	.216		
	Total	78,734	238			

a. Dependent Variable: Log10 total CSIR

b. Predictors: (Constant), Control_Number of employees LOG10, Control_Return on equity, Log10 training hours, Control_Industry groups, % difficult to find new staff, Control_Governance pillar score, Control_environment pillar score, Control_CSR score, Control_Operating profit margin, Control_Social pillar score, Control_LOG10 assets

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error				Beta	Tolerance
1	(Constant)	-2,150	.366		-5,876	<.001		
	Control_LOG10 assets	.250	.058	.322	4,326	<.001	.497	2,013
	Control_Industry groups	-1,448E-5	.000	-.056	-1,056	.292	.964	1,037
	Control_CSR score	.000	.002	-.019	-.256	.798	.577	1,734
	Control_Return on equity	-.004	.003	-.079	-1,236	.218	.666	1,502
	Control_Number of employees LOG10	.163	.060	.205	2,729	.007	.485	2,062
	Control_Social pillar score	.004	.003	.092	1,291	.198	.543	1,840
	Control_Governance pillar score	.000	.002	.009	.133	.894	.697	1,434
	Control_environment pillar score	.005	.002	.146	2,094	.037	.563	1,777
	Control_Operating profit margin	.003	.003	.057	.793	.429	.527	1,899
	% difficult to find new staff	.000	.003	-.006	-.106	.916	.779	1,285
	Log10 training hours	-.017	.091	-.011	-.186	.853	.843	1,186

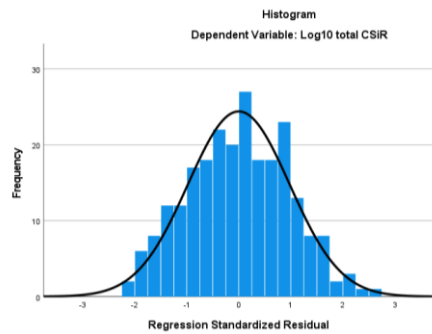
a. Dependent Variable: Log10 total CSIR

Collinearity Diagnostics^a

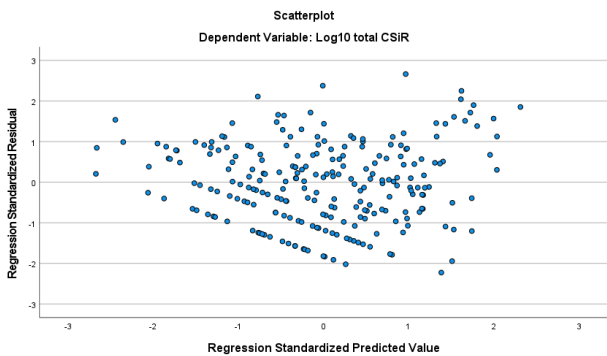
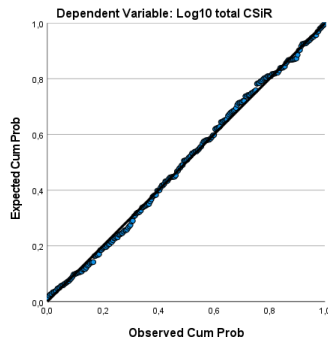
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Control_LOG10 assets	Control_Industry groups	Control_CSR score	Control_Return on equity	Control_Number of employees LOG10	Control_Social pillar score	Control_Governance pillar score	Control_environment pillar score	Control_Operating profit margin	% difficult to find new staff	Log10 training hours	Variance Proportions	
																Control_Number of employees LOG10	Control_Social pillar score
1	1	10,173	1,000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	1,024	3,152	.00	.00	.00	.00	.33	.00	.00	.00	.00	.10	.00	.00	.00	.00
	3	.352	5,380	.00	.00	.00	.00	.53	.00	.00	.00	.00	.56	.00	.00	.00	.00
	4	.167	7,810	.00	.00	.72	.03	.00	.00	.00	.02	.01	.01	.00	.00	.00	.00
	5	.092	10,530	.00	.00	.14	.19	.00	.00	.00	.19	.00	.02	.04	.05	.00	.00
	6	.070	12,064	.00	.00	.00	.00	.02	.00	.01	.01	.06	.07	.00	.77	.00	.00
	7	.049	14,398	.00	.00	.01	.47	.00	.00	.00	.70	.01	.00	.00	.00	.00	.00
	8	.031	18,206	.02	.00	.03	.14	.03	.01	.01	.00	.61	.00	.07	.13	.00	.00
	9	.017	24,673	.00	.02	.01	.07	.03	.40	.07	.02	.00	.06	.39	.00	.00	.00
	10	.014	26,534	.01	.01	.00	.02	.00	.02	.85	.03	.25	.01	.08	.00	.00	.00
	11	.008	34,630	.30	.08	.04	.04	.04	.44	.05	.03	.00	.16	.39	.00	.00	.00
	12	.004	53,461	.66	.88	.04	.03	.00	.12	.01	.00	.05	.02	.02	.03	.00	.00

a. Dependent Variable: Log10 total CSIR

Charts



Normal P-P Plot of Regression Standardized Residual



Appendix 13: MLR with total types of training offered & companies searching longer than 6 months

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Durbin-Watson	
						F Change	df1	df2		
1	,615 ^a	,378	,348	,46377	,378	12,577	11	228	<,001	1,926

a. Predictors: (Constant), % of companies searching longer than 6 months to fulfill vacancy, Control_Return on equity, Control_Industry groups, Total training types offered, Control_Governance pillar score, Control_Number of employees LOG10, Control_environment pillar score, Control_CSR score, Control_Operating profit margin, Control_Social pillar score, Control_LOG10 assets

b. Dependent Variable: Log10 total CSIR

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29,755	11	2,705	12,577	<,001 ^b
	Residual	49,039	228	,215		
	Total	78,794	239			

a. Dependent Variable: Log10 total CSIR

b. Predictors: (Constant), % of companies searching longer than 6 months to fulfill vacancy, Control_Return on equity, Control_Industry groups, Total training types offered, Control_Governance pillar score, Control_Number of employees LOG10, Control_environment pillar score, Control_CSR score, Control_Operating profit margin, Control_Social pillar score, Control_LOG10 assets

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	-2,192	,348		-6,300	<,001		
	Control_LOG10 assets	,249	,057	,321	4,371	<,001	,506	1,978
	Control_Industry groups	-1,554E-5	,000	-,061	-1,132	,259	,955	1,047
	Control_CSR score	,000	,002	-,017	-,243	,808	,591	1,691
	Control_Return on equity	-,003	,003	-,072	-1,141	,255	,679	1,472
	Control_Social pillar score	,003	,003	,082	1,167	,244	,555	1,803
	Control_Governance pillar score	,000	,002	,006	,094	,926	,726	1,377
	Control_Operating profit margin	,002	,003	,041	,569	,570	,516	1,938
	Control_environment pillar score	,005	,002	,147	2,102	,037	,558	1,792
	Control_Number of employees LOG10	,158	,060	,200	2,622	,009	,471	2,121
	Total training types offered	,023	,045	,030	,507	,613	,778	1,286
	% of companies searching longer than 6 months to fulfill vacancy	-,001	,005	-,012	-,207	,836	,813	1,230

a. Dependent Variable: Log10 total CSIR

