

Competition in technology and innovation, motivation crowding, and environmental policy

Johan Graafland 

Economics, Business and Ethics, Tilburg Sustainability Center/CentER, Tilburg University, Tilburg, The Netherlands

Correspondence

Johan Graafland, Economics, Business and Ethics, Tilburg Sustainability Center/CentER, Tilburg University, Room P1205, Warandelaan 2, 5000 LE Tilburg, The Netherlands.
Email: j.j.graafland@uvt.nl

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Abstract

This paper investigates the theoretical and empirical relevance of motivation crowding theory for owner–managers' motivation towards sustainable development. Motivation crowding theory has argued that external pressures enforce (crowd in) moral motivation if these pressures are perceived as supportive. On the basis of this theory, we conjecture that a competitive environment that is characterized by a high intensity of competition on innovation will crowd in moral motivation towards sustainable development if owner–managers believe that environmental policy practices increase the innovative capability of their company. Test results on survey data filled out by 650 owner–managers support this hypothesis. These results imply that policy makers, who aim at stimulating innovation as well as sustainable development, should inform managers about the innovation-enhancing effects of environmental policy practices.

KEYWORDS

competition, corporate social responsibility, environmental policy, innovation, moral motivation, motivation crowding theory

1 | INTRODUCTION

Over the last quarter century, much research has been done on the drivers of corporate social responsibility (CSR), a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis (European Commission, 2001). Managers may have different motives for actively pursuing CSR, and literature often distinguishes extrinsic motives driven by market incentives from intrinsic motives driven by morality or personal satisfaction (Aguilera, Rupp, Williams, & Ganapathi, 2007; Lindenberg, 2001; Muller & Kolk, 2010; Weaver, Treviño, & Cochran, 1999). When managers are extrinsically motivated,

they are not driven by the activity itself, but by the consequences associated with performing the activity, such as financial benefits.

Previous research did, however, not consider the possibility that intrinsic CSR motives may also depend on market incentives. Motivation crowding theory has recognized that financial rewarding of a desired behavior may crowd *in* intrinsic motivation towards this type of behavior if the financial reward is perceived as supporting the agent in performing the action (Eisenberger, Rhoades, & Cameron, 1999). Because CSR has been shown to stimulate innovation (Briones Peñalver, Bernal Conesa, & de Nieves Nieto, 2018; Flammer & Kacperczyk, 2016; Guerrero-Villegas, Sierra-García, & Palacios-Florencio, 2018; Jiménez-Parra, Alonso-Martínez, & Godos-Díez,

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2018; Luo & Du, 2015; Marin, Martín, & Rubio, 2017; Surroca, Tribó, & Waddock, 2010; Wagner, 2007), a market environment that competes on technology and rewards CSR because of its innovation-enhancing effects will support managers to shape the company's strategic direction towards a higher CSR profile. This support will enlarge the moral motivation to improve environmental performance by environmental policy practices. However, market incentives may also crowd out intrinsic motivation if the manager feels that these incentives are coercive, reducing the freedom to act otherwise (Bowles & Polania-Reyes, 2012; Frey & Jegen, 2001; Lindenberg, 2001; Patzelt & Shepherd, 2011; Treviño, Weaver, & Reynolds, 2006). In order to understand how market incentives stimulate environmental policy practices, we therefore need more empirical insight into how moral motives are related to market incentives. The core research question that this paper addresses is therefore: how do market incentives affect moral motivation of managers and how do these crowding effects impact environmental policy practices?

We test the model on a sample of 650 owner-managers of small- and medium-sized enterprises (SMEs) from 12 European countries. Compared with their larger counterparts, the behavior of small firms is disproportionately driven by the values and motives of the managers (Revell, Stokes, & Chen, 2010). Therefore, crowding effects are more likely to occur for SMEs than for large companies. By concentrating on owner-managers, we focus on the motives of the individuals who exert a crucial influence on their company's environmental policies (Kim, Kim, Han, Jackson, & Ployhart, 2017).

This study makes three major contributions to literature. First, it theorizes how competitive pressures affect moral CSR motivation of owner-directors. In previous literature on CSR motives (Ditlev-Simonsen & Middtun, 2011; Graafland & van de Ven, 2006; Muller & Kolk, 2010; Paulraj, 2009), external pressures and intrinsic motivations have always been conceptualized as independent from each other. But if intrinsic motivations are dependent on external pressures, this would lead to an underestimation of the relevance of these pressures for CSR. Second, whereas recent literature explored the relationship between competition and CSR (Fernández-Kranz & Santaló, 2010; Flammer, 2015; Graafland & Smid, 2015), no research has yet investigated the type of motivational forces that explain this relationship or contingencies in this relationship. This study will do both by researching the impact of technological competition on environmental policy practices by considering its effect on moral CSR motivation and the moderating role of perceptions of owner-managers regarding the impact of CSR on the innovative capability of their firm. A third contribution of this paper is that it applies motivation crowding theory to CSR motives of owner-managers. Literature on motivation crowding theory has, until now, focused on behavior of households (Frey & Jegen, 2001), employees (Gubler, Larkin, & Pierce, 2016; Hossain & Li, 2014), and executives (Pepper & Gore, 2015). But how intrinsic motivations of owner-managers are affected by market incentives has not been theorized or empirically researched.

In what follows, we first present the theoretical framework and the hypotheses and then describe the methodology, report the estimation results, and finally discuss our findings.

2 | CONCEPTUAL FRAMEWORK

2.1 | Motivation crowding theory

Motivation (i.e., the reason upon which one acts) is an important antecedent to behavior (Treviño et al., 2006). The literature distinguishes extrinsic from intrinsic motives. An extrinsic motive encourages behavior because it has instrumental value for other goals, such as financial benefits. Intrinsically motivated actions are actions for which there is no reward but the behavior itself (Muller & Kolk, 2010).

As argued by Lindenberg (2001), one type of intrinsic motivation concerns feelings of moral obligations (Frey & Jegen, 2001). If one is morally motivated, one acts out of a sense of obligation, responsibility, or concern with the social good rather than out of self-interest. The goal is to act appropriately. This type of intrinsic motivation is particularly relevant for CSR, because responsibility belongs to the core of the CSR concept. Owner-managers may care about CSR intrinsically because they feel that they are responsible for prevention of negative impacts of their companies on society and the natural environment.

Motivation crowding theory has recognized that financial rewards of a desired behavior may crowd in or crowd out intrinsic motivations to perform the behavior (Bowles & Polania-Reyes, 2012; Lindenberg, 2001). The effect of a given reward in terms of intrinsic motivation is contingent on how it affects an individual's perceived autonomy, because freedom of choice is a precondition for the possibility of taking responsibility (Velasquez, 2011). According to motivation crowding theory, intrinsic motivation is activated when conditions are conducive to its expression (Eisenberger et al., 1999). Hence, crowding in of intrinsic motivation is observed if external rewards are enlarging the freedom to act (Bowles & Polania-Reyes, 2012; Frey & Jegen, 2001; Lindenberg, 2001). In contrast, crowding out is observed if external incentives are perceived as an external, controlling intervention that removes the locus of control from the person affected (Deci, Koestner, & Ryan, 1999).

2.2 | Technological competition, innovation, and moral CSR motivation

In this section, we consider the relationship between moral motivation of owner-managers towards CSR and competitive environment. Firms can compete in many different dimensions, such as price, distribution channels, supplier inputs, and technology (Shapiro, 1989; Vickers, 1995). In this paper, we focused on technological competition, because earlier research by Graafland and Smid (2015) showed that technological competition rather than price competition drives CSR. Literature has given several arguments and empirical support for a positive effect of CSR on innovation (Briones Peñalver et al., 2018; Flammer & Kacperczyk, 2016; Guerrero-Villegas et al., 2018; Jiménez-Parra et al., 2018; Luo & Du, 2015; Marin et al., 2017; Surroca et al., 2010; Wagner, 2007). For example, CSR attracts more intelligent, motivated, experienced, visionary, creative, and committed

employees who foster the innovative capability of the firm (Guerrero-Villegas et al., 2018). Furthermore, CSR is likely to relieve customers and employees from short-termism, stimulating customers to be more loyal to the firm and tolerate failures from new products and encouraging employees to invest more effort in risky innovation (Flammer & Kacperczyk, 2016). Given these innovation-enhancing effects of CSR, an environment where companies compete on innovation will make CSR a more valuable strategic option. On the basis of the tenets of motivation crowding theory, we therefore conjecture that the intensity of technological competition may increase the moral motivation of owner-managers towards CSR.

However, this crowding in effect is conditional on the owner-managers' perception that CSR increases the innovative capability of their company, because only then the owner-manager will perceive that such a market context will be supportive for CSR and convey freedom to the owner-manager to shape the company's strategic direction towards a higher CSR profile, increasing moral motivation. If the owner-manager does not believe that CSR enforces the firm's innovation, it is expected that a market environment with more intense competition on technology decreases the owner-manager's moral motivation towards making costly investments into CSR. Experiencing autonomy requires that owner-managers have a set of options available (Patzelt & Shepherd, 2011). The more intense technological competition, the more the owner-manager will feel pressure to spend the available company's resources to investments that he or she believes will improve the firm's innovation and the less options there are to invest in CSR-related actions if they do not foster the firm's innovation. In a market context in which CSR would harm the company's competitiveness and put the continuity of the company at risk, the owner-manager has less freedom to pursue a CSR policy and will be more inclined to deny a moral duty to CSR, because taking responsibility assumes freedom (Velasquez, 2011). If it is impossible to pursue CSR without endangering the future of the company, this will lessen the owner manager's responsibility to CSR because owner-managers also have a moral duty towards their own company, such as providing job security for the employees.

In other words, we surmise that the relationship between intensity of technological competition and moral motivation of CSR is likely to be positively moderated by the perceived effect of CSR on the innovative capability of their company. Moderation means that the influence of an independent variable on a dependent variable is conditional on a third variable (the moderator; Preacher, Rucker, & Hayes, 2007). The reward of CSR that results from the interaction between technological competition and perceived effect of CSR on innovation creates the freedom to engage in CSR that crowds in moral motivation. But if

CSR is not conducive to the innovative capability of the firm, owner-managers of companies that are operating in a highly technological competitive environment feel pressure to invest the financial resources in other ways that are believed to be more innovation enhancing. This pressure reduces the freedom to pursue an active CSR policy and decreases moral CSR motivation. This leads to the following hypothesis:

Hypothesis 1. *The owner-manager's perception that CSR enforces the innovative capability of the firm positively moderates the relationship between technological competition and moral motivation of CSR.*

2.3 | Moral motivation and environmental policy practices

We complement Hypothesis 1 by a second hypothesis on the effects of moral motivation on environmental policy practices (see Figure 1). As discussed above, moral motivation is an important antecedent to behavior (Aguilera et al., 2007; Treviño et al., 2006; Weaver et al., 1999). This particularly applies to owner-managers of SMEs, because of the small size of the company. They are often directly involved in decisions on CSR (Waldman, Siegel, & Javidan, 2006). As directors-owners manage their small business by themselves and are constantly able to shape the strategic direction of their company (Discua Cruz, Hamilton, & Jack, 2012), their moral motivations will affect CSR.

Research has shown that the greater intrinsic motivations towards CSR, the more likely it is that a firm will engage in CSR. Muller and Kolk (2010) found that moral commitment has a strong and significant effect on CSR. Ditlev-Simonsen and Midttun (2011) researched the perceptions of three stakeholder groups regarding the motivations of managers towards CSR and found that these groups estimate that intrinsic motivations, such as morality and sustainability, affect managers' CSR engagement but less than financial motives. Masurel (2007) analyzed a sample of 57 SMEs and found that moral duty is mentioned by 51 companies as a reason to invest voluntarily in environmental measures, which is the third most important motive out of 12 motives. Paulrai (2009) found that environmental practices are more often morally motivated than motivated by legislative requirements or market competitiveness. Coppa and Sriramesh (2013) found that, for a sample of 105 SMEs, moral motivation proved to be the most important reason to engage in CSR, followed by long-term sustainability. On a sample that mainly consisted of SMEs, Graafland and van de Ven (2006) found that the use of CSR instruments, including ISO certification, is more related to moral motivation than to financial motivation.

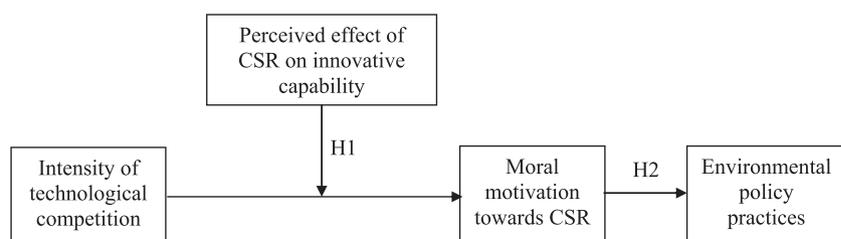


FIGURE 1 Conceptual framework

TABLE 1 Descriptives

Variable	Mean	SD	Variable	Mean	SD
ISO 14001 certification	0.10	0.28	Machine ^a	9.0	28.9
Moral CSR motivation	5.1	1.5	Transport ^a	0.6	7.5
Perceived CSR effect on innovative capability	4.2	1.7	Other manufacture ^a	9.4	29.1
Intensity of technological competition	5.1	1.7	Utilities ^a	0.7	8.5
Austria ^a	1.5	12.0	Construction ^a	6.4	24.4
Denmark ^a	6.0	23.7	Trade and hotels ^a	7.9	26.9
Finland ^a	4.2	20.0	Transport services ^a	3.5	18.5
France ^a	6.6	24.8	Telecom ^a	3.3	17.7
Germany ^a	9.1	28.7	Finance ^a	0.9	9.5
Great Britain ^a	3.3	17.7	Real estate ^a	0.7	8.2
Hungary ^a	4.7	21.1	Other services ^a	16.6	27.2
Italy ^a	35.6	47.9	Other business ^a	13.6	34.3
The Netherlands ^a	12.8	33.5	B2C ^b	2.0	1.1
Poland ^a	5.5	2.3	Company size ^c	2.50	1.4
Spain ^a	6.0	23.7	Young employees ^d	9.5	12.7
Sweden ^a	4.8	21.4	Medium aged ^d	67.9	23.3
Agriculture ^a	1.5	12.1	Old aged ^d	22.7	21.8
Mining ^a	0.5	6.9	Low skilled ^e	32.2	31.9
Food ^a	4.2	20.0	Medium skilled ^e	41.7	30.0
Textile ^a	3.3	17.9	High skilled ^e	25.6	29.1
Paper ^a	2.1	14.2	Respondent age ^f	3.26	0.78
Oil and chemical ^a	3.2	17.5	Share of women	0.28	0.27
Metal ^a	7.9	27.0			

Abbreviation: CSR, corporate social responsibility.

^a% of companies.

^bMean response to 5 point scale ranging from "B2B" (1) to "B2C" (5).

^cNatural logarithm of number of employees (in full-time equivalent).

^dYoung: % of employees <25 years; medium aged: 25–50 years; and old: >50 years.

^eLow skilled: % of employees with no qualifications, O levels, CSEs, and GCSEs; medium skilled: % of employees with A levels or BTEC equivalent; and high skilled: % of employees with degree and postgraduate level qualifications.

^fMeasured by four age groups (1 = <30; 2 = 30–34; 3 = 46–55; and 4 = >55 years).

On the basis of these researches, we expect that the moral motivation of the owner–manager of an SME will encourage the use of environmental policy practices by the firm:

Hypothesis 2. *Environmental policy practices are positively related to the intrinsic motivation of the owner–manager.*

3 | METHODOLOGY

3.1 | Data collection

Data were taken from a survey undertaken in 2014 among 12,321 companies based in 12 European countries. The e-mail addresses were obtained from CentERdata. The methodology of the survey

development and the data collection process of the survey have been described by Graafland (2018). From the 3,816 responses to the survey, 650 were filled in by the owner–manager of the firm and were useable for this research. The average number of employees was 12 in full-time equivalent.¹ Because of differences in response rates per country, we used country weights based on the number of enterprises per country to make the sample representative for the 12 countries.

3.2 | Measures

Environmental policy practices are operationalized by ISO 14001 certification. Following Oliveira, Oliveira, Ometto, Ferraudo, and Salgado

¹For other details of the characteristics of the firms in the sample, such as country of origin, sector division, position in the chain, age structure, and skill structure, see Table 1.

(2016), ISO 14001 certification was measured by a 3-point scale, with 0 if the enterprise is not certified for ISO 14001 at all, 0.5 if it is certified for part of the enterprise's operational sites, and 1 if it is certified for all operational sites of the enterprise.

Following Graafland and van de Ven (2006), the moral motivation of the owner-manager was measured by the response to the statement "It is a moral duty of a company to engage in CSR" in response to the survey question: "How important are the following motives to engage in CSR?" The perception of the owner-manager that CSR enforces the innovative capability of the firm was measured by the response to the statement "CSR improves the innovative capability" in response to the survey question "To what extent does engagement in CSR influence the following aspects for your enterprise?" Following Graafland and Smid (2015), we measured technological competition with a survey question asking the respondent to reflect on the extent to which his or her enterprise "is prone to competition on product innovation in the market for your main product or service." The responses to the three survey questions for moral motivation, perceived CSR effect on innovation, and intensity of technological competition were all administered on a 7-point Likert scale ranging from *not at all* (1) to *very much* (7).

To test the reliability of the measurements of moral motivation, perceived CSR effect on innovation, and intensity of technological competition, we performed correlation analysis with responses to survey questions that measured closely related aspects. For moral motivation, we used the response to the statement "Your company feels responsible for the planet and for society" in response to the survey question: "How important are the following motives to engage in CSR?" This statement refers to the company and may therefore reflect not only the owner-manager's own moral motivation but also moral motivations of other persons in the company. Still, it is expected that the responses to this statement are highly correlated to the statement "It is a moral duty of a company to engage in CSR," as it is likely that the owner-manager is directly involved with the CSR policy of the firm. Correlation analysis of the responses to both statements confirmed this ($r = .49, p \text{ value} < .001$). To test the reliability of the measurement of the perception of the owner-manager that CSR enforces the innovative capability of the firm, we correlated it to the response to another statement that reflects on the same survey question, stating: "CSR improves the inflow of highly qualified employees." The difference between the two statements is that the second measure captures only one of the underlying reasons that CSR might enforce the innovative capability of the firm. The correlation coefficient of $.58 (p < .001)$ showed that the responses to both statements are highly correlated. To test the reliability of the measurement of the intensity of technological competition, we measured average innovation in 19 sectors, constructed by averaging the outcomes of two survey questions on process and product innovation for all companies per sector.²

²These questions are as follows: (a) Has your enterprise introduced new or significantly improved products or services since 2007? (Exclude the simple resale of new goods and changes of a solely aesthetic nature.); (b) Has your enterprise introduced new or significantly improved production or organizational processes since 2007? The responses to both survey questions were administered on a Likert scale ranging from *not at all* (1) to *very much* (7).

The higher the average innovation of all companies in the sector in which an individual company operates, the higher the intensity of technological competition that the owner-manager of this individual company will perceive. Multiple regression analysis (controlling for all control variables, see below) confirmed this, as the average innovation was highly significant ($\beta = .10, p < .001$). These results provide confidence in the reliability of the measurements of moral motivation, perceived effect of CSR on innovative capability, and intensity of technological competition.

3.3 | Control variables

We used various types of control variables (for details on how they were measured, see the footnotes of Table 1). First, CSR motivations are conditioned by the wider institutional and cultural environment of the company, and therefore, we controlled for country dummies. At the sectoral level, we controlled for 19 sector dummies as classified by national accounts. At the firm level, we controlled for position in the chain, company size (measured by the number of employees in full-time equivalents), age structure and skill structure of the labor force of the company, and the age and gender of the respondent.

3.4 | Common method and nonresponse bias

Although common method bias between the dependent and independent variables is less likely when the independent variable concerns the interaction between two variables (i.e., the perceived CSR effect on innovative capability and intensity of technological competition), we followed several precautionary measures and ex-posttests recommended by Podsakoff, MacKenzie, Lee, and Podsakoff (2003) in order to prevent common method bias in the measurement of the survey items. As a first precautionary measure, we separated the survey question for moral motive (Question 28 in the survey) from the survey questions measuring technological competition and perceived effect of CSR on innovative capability (Questions 122 and 37 in the survey) and ISO 14001 certification (Question 57), so that no connection between these questions would be perceived by respondents. Second, we kept questions simple, specific, and concise, steering respondents to least effort genuine answers. Finally, we applied an ex-posttest for common method bias using the marker variable technique. A marker variable is a variable that is theoretically unrelated to at least one of the variables being studied. The correlation between this marker variable and the theoretically unrelated variable is treated as an indicator of common method bias. As marker variable, we selected the share of employees recruited from disadvantaged groups (e.g., ethnic minorities, people with disabilities, and long-term unemployed), which can be assumed to be theoretically unrelated to the intensity of technological competition. We found a correlation coefficient of $.02 (p = .52)$, which suggests that the survey variable outcomes are not due to common source bias.

In evaluating the nonresponse bias, we used wave analysis (Rogelberg & Stanton, 2007). In order to apply this test, we

constructed a wave variable with value 1 for respondents that responded after the first invitation to participate in the survey, value 2 for responses after the first reminder, value 3 for responses after the second reminder, and value 4 for responses after the third reminder. Correlation analysis with dependent and independent variables showed no significant correlation coefficients that might be indicative of nonresponse bias. The wave variable was included as an additional control variable in the regression analysis to correct for possible nonresponse bias.

4 | RESULTS

The (country-weighted) estimation results are reported in Table 2. Because of the discrete measurements of moral CSR motivation and ISO 14001 certification, we used ordered logit regression analysis, which is often used in analyses of human preferences. The interaction term between the intensity of technological competition and the perceived effect of CSR on innovative capability of the firm has a significant positive effect on moral motivation towards CSR, supporting Hypothesis 1 that the perceived innovation effect of CSR moderates the influence of technological competition on moral CSR motivation. Moral CSR motivation is found to encourage ISO 14001 certification,

TABLE 2 Estimation results^a

	Moral CSR motivation	ISO 14001 certification
Technological competition (TC)	-0.27*	-0.39*
Perceived CSR effect on innovative capability (PCI)	-0.18	-0.44
Interaction term (TC × PCI)	0.11***	0.10*
Moral motivation		0.20*
B2C	-0.06	-0.29*
Company size	-0.13	0.56***
Young	0.00	0.02
Medium aged	0.00	-0.01*
Medium skilled	0.00	-0.01
High skilled	0.00	-0.01
Respondent age	0.10	-0.14
Women	0.91***	0.48
Wave	-0.03	-0.10
Controlled for sector dummies	Yes	Yes
Controlled for country dummies	Yes	Yes
R ² (Nagelkerke)	.28	.28
χ ²	209***	150***

Note. The reference group for age structure, skill structure, and women are old, unskilled, and men. The estimation results for the sector and country dummies are available with the authors.

Abbreviation: CSR, corporate social responsibility.

^aOrdered logit regression analysis.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

TABLE 3 Effects of technological competition on moral CSR motivation and ISO 14001 certification moderated by perceived CSR effect on innovative capability

Perceived CSR effect on innovative capability	1	2	3	4	5	6	7
% of sample	10	10	14	22	21	17	7
Effect of intensity of technological competition on							
Moral CSR motivation ^a	-0.16	-0.05	0.06	0.17	0.28	0.39	0.50
ISO 14001 certification ^b	-0.06	-0.03	0.00	0.03	0.06	0.10	0.13

Abbreviation: CSR, corporate social responsibility.

^aCalculated as $-0.27 + 0.11 \times$ perceived CSR effect on innovative capability. The coefficients are taken from Table 2.

^bCalculated as $0.20 \times (-0.27 + 0.11 \times$ perceived CSR effect on innovative capability) $+ 0.10 \times (-0.39 + 0.10 \times$ perceived CSR effect on innovative capability). The coefficients are taken from Table 2.

which supports Hypothesis 2. Also, the interaction term is seen to increase ISO 14001 certification. Because the interaction term reflects external rewards of CSR due to the innovation-enhancing effect of CSR, this effect can be interpreted as a direct influence of extrinsic motivation on the implementation of ISO 14001 certification.

Based on the estimation results of Table 2, it can be calculated that technological competition increases moral motivation and ISO 14001 certification if the perceived effect of CSR on innovative capability exceeds 3, which holds for 64% of the owner-managers in our sample (see Table 3). For 20% of the owner-managers (with perceived effect of CSR on innovative capability lower than 3), the intensity of technological competition has a negative effect on moral motivation and ISO 14001 certification.

5 | DISCUSSION

5.1 | Contribution to literature

In this paper, we have tested the relevance of motivation crowding theory to the moral motivations of owner-managers towards CSR on a sample of 650 owner-managers from 12 European countries. Our research indicates that financial rewards of CSR crowd in the moral motivation of owner-managers towards CSR. Previous studies by Weaver et al. (1999), Graafland and van de Ven (2006), Aguilera et al. (2007), Paulrai (2009), and Muller and Kolk (2010) did not take account of the interrelationship between external pressures and intrinsic motivation towards CSR through motivation crowding. By providing scientific insight into motivation crowding effects, our study develops a more nuanced understanding of the motivating power of market conditions for CSR. As market competition that rewards CSR stimulates moral drivers, the disregard of this relationship in literature leads to an underestimation of the relevance of market incentives for CSR.

Our analysis also contributes to institutional theory and its application to CSR. Previous research has shown that free market institutions (Baughn, Bodie, & McIntosh, 2007; Hartmann & Uhlenbruck, 2015) as

well as intensity of competition in the marketplace lead to better CSR outcomes (Fernández-Kranz & Santaló, 2010; Flammer, 2015; Graafland & Smid, 2015). Both are connected, because free market institutions stimulate a market environment where companies compete on technology (Herrera-Echeverri, Haar, & Estévez-Bretón, 2014; Nyström, 2008). But no research has yet investigated the type of motivational forces that explain the positive effects of market institutions and competition on CSR. Our analysis indicates that, under certain conditions, crowding in of moral motivation is one of the channels that explain these positive influences from free market institutions and intensity of competition on CSR. Our study also makes a start with research in contingencies in the relationship between competitive pressures and CSR. More specifically, we find that whether technological competition enforces moral motivation and the implementation of environmental management systems depends on the perception of owner-managers regarding CSR impacts on innovative capability of their firm.

Third, previous literature on motivation crowding theory has analyzed various types of consumer and household behavior (Bowles & Polania-Reyes, 2012; Frey & Jegen, 2001) as well as responses of employees and executives to internal reward systems (Gubler et al., 2016; Hossain & Li, 2014; Pepper & Gore, 2015). Our paper contributes to this literature on motivation crowding theory by applying it to strategic decision making on CSR by owner-managers. Whereas the majority of studies into crowding effects on behavior of consumers, households, and employees support the crowding out hypothesis, our study indicates that crowding in effects are relevant in the CSR behavior of owner-managers. A possible explanation for this difference in findings is that rewarding socially desirable behavior is more likely to be perceived as supportive and increasing self-determination in a business context than in the context of a private household. Companies that face severe competition may not be able to survive if costly investments in CSR are not rewarded by market parties, whereas financial rewarding of household contributions to the common good, such as blood donation, will only have a negligible effect on the continuity of their way of life.

5.2 | Policy implications

The findings of this study have important policy implications. First, as we find no support for crowding out effects, there need not be a trade-off between economic benefits from more competition (the usual policy goal of competition policy) and social or environmental benefits from CSR. Governments can stimulate CSR by economic policies that encourage technological competition, for example, by funding R&D or offering tax credits to the companies for the R&D expenditure made by those companies. Government grants to directly fund innovative activities are known to have the most impact when directed to SMEs.

However, our results indicate that such policies may not be effective if owner-directors are not aware of the positive effects of CSR on innovation. Another policy implication is therefore that policy makers,

who aim at stimulating innovation as well as CSR in the marketplace by market incentives, should inform managers about the innovation-enhancing effects of CSR. By appealing to the innovation motive, owner-managers of SMEs can be more effectively induced to develop a proactive CSR strategy, as it will increase both extrinsic motivations towards CSR (because of its direct incentive effect) and moral motivation (because of the crowding in of this incentive effect). This awareness can be stimulated if policy makers target their policies at CSR-related innovation.

5.3 | Business recommendations

The lesson for management that one used to derive from earlier findings that CSR is strongly driven by intrinsic motivations is that it is important to stimulate an ethical culture that encourages moral sensitivity and awareness and that this has important implications for the recruitment policies and the socialization and training programs at the company level. At the institutional level, moral motivation can be fostered by normative calls for social responsible behavior in important business publications and curricula in business schools and by dialogues with unions, employees, community groups, and other stakeholders, because it appears that companies then better appreciate the concerns of these other actors (Campbell, 2007). In this study, we show, however, that moral CSR motivation may also be enforced by extrinsic motivations arising from external pressures to CSR. This implies that it is also important to emphasize the business case. The fear that incentivizing companies in this way might be counterproductive because of crowding out effects on intrinsic motivations, as suspected by Graafland and van de Ven (2006), is unwarranted.

5.4 | Limitations and future research

Our study suffers from several limitations. First of all, our research is limited to owner-managers of SMEs. The scope of crowding theory would be extended further if it could be shown to be applicable to large companies as well. More theoretical and empirical research is needed to study crowding effects on motivations in large organizations.

Another limitation is that the results of this study are based on European data. Because moral motivations may be dependent on cultural values, it is possible that crowding effects differ among different regions in the world. Our finding that market incentives crowd in moral motivations of SME business leaders should ideally also be tested in other parts of the world.

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ORCID

Johan Graafland  <https://orcid.org/0000-0002-1497-803X>

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