Environmental strategy and its implementation: What's in it for companies and does it pay off in a post-transition context?*

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Abstract

The paper aims to contribute to the body of knowledge on environmental strategy, its motives and results in a post-transition context. A conceptual model is developed in which environmental motives are linked to a corporate environmental strategy, while a corporate environmental strategy is indirectly linked through functional implementation activities to company performance. The model is tested on a sample of 153 companies by using structural equation modelling. The findings indicate that top management commitment, regulatory forces and public concern positively affect the development of an environmental strategy, with top management commitment being the most important. As for the results of an environmental strategy, the study finds a direct positive effect of green manufacturing and a significant total indirect effect of corporate environmental strategy on company performance (significantly transmitted through green manufacturing).

Keywords: environment, motive, strategy, implementation, performance
JEL classification: M10, M31, Q50.

1. Introduction

Many companies have recently changed their attitudes toward the natural environment by introducing a wide range of environmental programmes (Min/Galle 2001) including: the integration of environmental issues into business processes (e.g. product greening, waste reduction, recycling, energy saving, etc.), integrating environmental management into planning processes, establishing environ-

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mental departments, creating environmentally sensitive organisational cultures and communicating the environmental philosophy to customers, suppliers and other stakeholders (Carter/Ellram/Ready 1998). The philosophy of the 'triple P (People, Profit and Planet)' became an important business philosophy that pointed to increased corporate environmentalism (Kleindorfer 2007).

Still, the emergence of corporate environmentalism does not necessarily mean that companies proactively formulate and implement environmental strategies. According to Banerjee, Iyer and Kashyap (2003), there are two sides to corporate environmentalism: environmental orientation and environmental strategy. Environmental orientation is defined as 'the recognition by managers of the importance of environmental issues facing their firms,' while environmental strategy can be understood as 'the extent to which environmental issues are integrated with a firm's strategic plans' (Banerjee et al. 2003:106). In this paper we analyse what companies actually do to include environmental issues in their strategic management, which means we deal with environmental strategies and not environmental orientation.

But research on environmental strategies cannot focus solely on the strategies themselves. Few companies are probably willing to introduce proactive environmental strategies without properly understanding the motives for and results of these strategies. Hitt, Ireland and Hoskisson (2005) even argue that the correct understanding of the motives behind any strategy is critically important for successful strategy development. A company must properly understand why it is doing something before this 'something' can be done in the best possible way. So, do companies execute environmental strategies because they have to or because they want to? In other words, are environmental strategies merely a result of increased local, regional and international regulation or are there also other, more proactive (e.g. an expected increase in profitability ratios) motives underlying them? The question of why a company should or would act environmentally friendly is also closely connected to (the perception of) the results of developing and implementing these strategies. If a company finds out that its environmental strategies lead to improved performance then the motives behind its future environmental efforts may be completely different than if the company had found out that its environmental activities merely produce extra costs and do not contribute to greater profit.

The purpose of this paper is to address these questions and contribute to the body of knowledge on companies' environmental strategies, as well as their implementation in the manufacturing sector of a post-transition economy by systematically addressing two research questions: (1) why do companies incorporate environmental issues into their corporate strategy; and (2) does the development of a corporate environmental strategy and its implementation through functional activities pay off? Specifically, we propose and test a structural equation

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model that builds on the consecutive link 'motives for environmental strategy → corporate environmental strategy → functional implementation activities → results of environmental strategy'.

The paper contributes to environmental strategy literature in several ways. First, to our knowledge no study simultaneously includes motives, strategies and results in one comprehensive model even though, as we have argued, a proper understanding of the motives for and results of environmental strategies calls for their simultaneous investigation. The paper tries to bridge this literature gap by systematically including motives, strategies and results in a single conceptual model. Second, past studies have mostly discussed the direct influence of a (planned) environmental strategy on company performance, thus neglecting the issue of its implementation. In contrast, our research approach is designed so as to separately address the development and the implementation of a corporate environmental strategy, which allows us to test its indirect influences (the latter being mediated by implementing functional environmental activities) on company performance. According to Polonsky (1995), such a research approach is necessary because practically all green strategy literature focuses on broader organisational strategic issues, while much less is said and empirically investigated within specific areas like individual business functions. Similarly, North (1992) argues that the integration of environmental management into functional fields is necessary if studies want to be systematic and detailed. By including a corporate environmental strategy as well as its implementation through activities within core business functions, our unique conceptual model represents the third major contribution of this paper.

Last but not least, an important contribution of this paper is that these relationships are tested in the context of a post-transition economy. The vast majority of research on corporate environmentalism has examined developed market economies (e.g. Banerjee et al. 2003; Darnall/Henriques/Sadorsky 2010; Delmas/Hoffman/Kuss 2011), while not much is known about this topic in post-transition countries, even though there are differences between a post-transition context and developed economies regarding the business environment and corporate environmentalism (Rojšek 2001; Earnhart/Lizal 2008; García/Bluffstone/Sterner 2009; Steurer/Konrad 2009). The countries of post-transition economies and of Central and Eastern Europe (CEE) specifically were burdened by heavily polluted environments in the last years of their communist regimes, but managed to achieve a dramatic decline in emissions, creating the need for studies on the factors motivating polluters to reduce their emissions in such numbers (Earnhart/Lizal, 2008). The fall of communism brought about complex political and economic changes, together with increased economic and political integration with Western countries and, for some states, full membership of the European Union. This was associated with new legislation and policies, new business practices and new expectations regarding the social and also environmental responsibility

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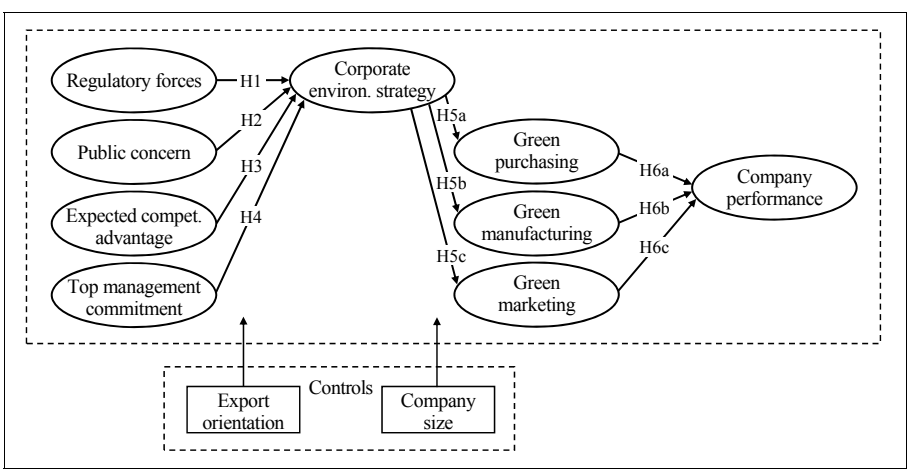
of business (García et al. 2009; Stoian/Zaharia 2012). As Steurer and Konrad (2009) point out, there is a large gap in environmental responsibility between Western European (WE) and Central and Eastern European (CEE) companies. Regarding the outcomes, Earnhart, Khanna and Lyon (2014) argue the benefits for a firm of a proactive sustainability strategy are less clear in developing and transition economies. Therefore, it is intriguing to examine why in this particular context companies incorporate environmental issues into their corporate strategy and whether the development of a corporate environmental strategy and its implementation through functional activities pay off.

2. Conceptual framework and the development of the hypotheses

The paper proposes a conceptual model (Figure 1) that investigates how regulatory forces, public concern, an expected competitive advantage and top management commitment influence the development of a corporate environmental strategy, and whether the development of this strategy and its implementation through functional activities pay off. The remainder of this section provides argumentation for the proposed model, defines the constructs and presents the hypothesised links among the constructs.

Figure 1: Conceptual model of companies' environmental motives, strategies and results



Note: All arrows represent the hypothesised positive links.

When developing the conceptual model, we build on the findings from developed market economies, bearing in mind the specificities of post-transition countries (e.g. Rojšek 2001; García et al. 2009; Steurer/Konrad 2009; Earnhart et al. 2014). García et al. (2009) state that during major economic transitions important changes can be observed in fundamental firm-level behavioural parame-

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ters (e.g. production technology, customer base and regulatory pressures) and even motivations for production. In CEE countries, these changes included the establishment of more secure property rights, the development of functioning markets and design of competitive business environments. These factors and the internationalisation of previously isolated economies, as already pointed out in the introduction, led to increased incentives for efficient production and stricter environmental management standards. Alongside this, the freedom of speech and press and the public's right to know about the environment were enforced and official regulatory authorities (e.g., ministries of environment, environmental protection agencies and inspectorates) were established (García et al. 2009). The business environment in these countries therefore became similar to that in developed market economies. However, important differences still remain between companies from market and post-transition economies. As Steurer and Konrad (2009) note, several differences between WE and CEE companies stem from the socialist heritage that is still present in the average CEE company. For example, CEE companies regard environmental responsibility as the role of government and perform environmental activities in compliance with the legal and regulatory environment of the given country. While they perceive environmental protection as important, social equity issues are not high on their list of priorities. CEE companies also see poor government involvement and lack of regulations as main obstacles to implementing environmental practices. However, when Steurer and Konrad (2009) analysed corporate responsibility reports and surveyed major CEE and WE companies, both leading in corporate responsibility reporting, the differences between the CEE and WE companies were not so large. This leads to conclusion that CEE companies regard environmental issues as highly important (which is also in line with managers' perception that several powerful stakeholders including owners share their view); however, their environmental performance is still relatively weak. While WE companies behave proactively in their environmental practices, CEE companies do it reactively and attempt only to fulfil EU standards, not to exceed them (Steurer/Konrad 2009).

Prašnikar, Ograjenšek, Pahor, Bajde and Trobec (2012) also point out that environmental responsibility in (post)transition markets is less rooted in corporate strategies, less prevalent and less politically entrenched than in most high income OECD countries. Therefore, our hypotheses are built on the assumption that companies in post-transition markets are catching up with their counterparts from the more developed markets; however, there are still some differences between them.

2.1. The motives for environmental strategy

There are many different motives for environmental strategies (Sharma 2001), probably too many to be discussed and analysed individually. For this reason,

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the authors have attempted to propose a typology of these motives based on a combination of a political-economic framework and stakeholder theory (Harrison/Freeman 1999; Henriques/Sadorsky 1999; Banerjee et al. 2003). The political-economic framework sees companies' strategies as being influenced by political and economic forces from both within and outside the company (Stern/Reve 1980). On the other hand, the stakeholder theory (Freeman, 1984) explains that companies' environmental strategies are affected by a number of influential individuals or groups, i.e. company stakeholders (Buysse/Verbeke 2003; Fernández Gago/Nieto Antolín 2004), whereby in the environmental context the most important stakeholder groups are regulators, organisational members, community members and the media (Henriques/ Sadorsky 1999). Based on these two theoretical foundations, Banerjee et al. (2003) suggest four broad groups of motives for environmental strategies, namely: regulatory forces, public concern, an expected competitive advantage and top management commitment. In this study we adopt the four broad groups of motives as proposed by Banerjee et al. (2003) with the aim of testing their presence and relative importance to the implementation of environmental strategy in a post-transition context.

Regulatory forces include 'coercive legal mandates for organizations to use pollution control technology, attend to pollution thresholds and report their pollution emissions to reduce their impact to the natural environment' (Darnall/Henriques/Sadorsky 2008). Regulators represent a powerful stakeholder group that exerts both external political (by imposing direct environmental legislation) and external economic (by increasing the costs of environmentally irresponsible behaviour) forces on companies. They can regulate packaging content, product design and distribution channels, control the maximum allowed emissions and other forms of pollution, etc. Environmental regulations and the related compliance costs differ from industry to industry. Heavy manufacturing industries draw more legislation than others because they have greater environmental risks and liabilities (Banerjee et al. 2003). When examining the influence of regulatory forces, we are interested in managerial perceptions of the regulatory forces, more precisely 'of the influence of governmental regulation on strategy and the level of environmental regulation faced by the company' (Banerjee et al. 2003:111).

Regulatory forces are an important factor impacting the environmental strategies of manufacturing firms in developed market economies (e.g. Ghobadian/Viney/James/Liu 1995; James/Ghobadian/Viney/Liu 1999; Banerjee 2001; Buysee/Verbeke 2003). Hoffman (1997) states that the fear of legal sanction is the main reason for implementing proactive environmental activities. In addition, for CEE companies regulatory forces play an important role in their environmental activities (e.g. Rojšek 2001; Garcia et al. 2009; Earnhart et al. 2014). CEE companies mostly function reactively and attempt to merely fulfil the EU standards, not to

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exceed them (Steurer/Konrad 2009). Therefore, we propose the following hypothesis:

H1: Regulatory forces positively influence the development of a corporate environmental strategy.

Public concern as a motive for environmental strategies is related to community members and the media as two environmental stakeholder groups according to Henriques and Sadorsky's (1999) classification. In the political-economic framework, public concern can be defined as an external political force exerted by different interest groups such as environmental activists, as well as an external economic force exerted by customers who demand environmentally friendly products (Banerjee et al. 2003). When examining public concern as a motive for environmental strategy, we are therefore interested in managerial perceptions of the pressures from customers and the public (different interest groups from the environment).

Customers increasingly demand environmentally friendly products, hence driving companies to implement more proactive green strategies (Banerjee et al. 2003). But customers are not the only important external pressure group. Also pressures from other external stakeholders (e.g. local communities, non-governmental organisations etc.) motivate companies to go green (Sharma 2001; Rhee/Lee 2003; Saha/Darnton 2005). Companies pay significant attention to how the public perceives them (Ghobadian et al. 1995), and so the more companies are publicly visible the more they are environmentally proactive (Lee, 2003). For a post-transition context, research done by Steurer and Konrad (2009) reveals that CEE companies perceive the following external stakeholder groups (besides governments/regulators) of high importance for corporation: major customers, media/public, local media and local communities. Rojšek (2001) also found a relatively strong influence of consumers and environmentalists as a source of pressure for the better environmental performance of Slovenian companies (but less important than top management, government and competitors). In addition, when exploring motivating factors for corporate social responsibility among Hungarian SMEs the most important motivating factors were tied to public concern and top management commitment (Nagypal, 2014). Based on a review of studies from CEE countries, Earnhart et al. (2014) conclude that while customer pressure in general does not seem influential, pressure from foreign customers and civic groups may positively influence environmental management. Therefore, we expect that public concern as a motive for corporate environmental strategy is present in post-transition economies, but is not as prevalent as other motives. Based on these arguments, we develop the following hypothesis:

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H2: Public concern positively influences the development of a corporate environmental strategy.

An expected competitive advantage is a strong internal and external economic force (Taylor/Welford 1993; Banerjee et al. 2003) that arises from the belief that a company can outperform its competitors because of its proactive environmental strategies (Porter/Van der Linde 1995; Sharma/Vredenburg 1998). Competitive advantage can be achieved either by significantly cutting costs in the long run, e.g. by using cheaper recycled raw materials, process improvements and energy savings (Smith 1991), or by differentiating products and services and using them to target environmentally conscious customers (Kearins/Klÿn 1999).

Green strategies may be used to create new business and market opportunities, thus improving a company's competitive edge (Parker 2000). Similar arguments that first-mover and agenda-setter advantages may accrue from the active pursuit of green strategies are also provided by Taylor (1992), who claims that a company which develops new processes, expertise and products in advance of competitors or legislative requirements may reasonably expect to build a unique competitive advantage, at least temporarily. Companies may expect increased revenues and a better overall corporate image if they implement environmental strategies (Taylor 1992; Shrivastava 1995 a). Although there are some exceptions, average CEE companies function reactively regarding environmental issues (Steurer/ Konrad 2009). This is also supported by the findings of Nagypal (2014) that the expected business benefits are less important than the motivating factors for corporate social responsibility among Hungarian SMEs. We assume that expected competitive advantage is still relevant as a motive for developing a corporate environmental strategy but, when taking the specifics of the post-transition context into account, we expect it to represent a relatively weak motivation. In line with these reasoning, we propose the following hypothesis:

H3: An expected competitive advantage positively influences the development of a corporate environmental strategy.

Finally, *top management commitment* as a motive for corporate environmentalism is linked with organisational stakeholders (Henriques/Sadorsky 1999) and can be seen as an important internal political force in the political-legal framework (Banerjee et al. 2003). Top management commitment denotes the demonstration of top management's belief in the importance of the environmental strategy. Top management shows its commitment to environmentalism by assigning senior managers to oversee the company's environmental orientation and strategies or by being directly involved in environmental issues of the company (Banerjee et al. 2003).

In the context of developed market economies the role of top leadership is identified as a key influence on environmental strategy (James et al. 1999). Having

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both a direct and indirect impact on environmental strategies (Lee/Ball 2003), it is often claimed that top managers not only drive their companies' environmental strategies, but also strongly influence the implementation of all corporate environmental management (Ghobadian/Viney/James/Liu 1998). Top management's attitude toward the environment is also significantly related to environmental strategic change (Lee/Rhee 2007). In a survey among leading reporting CEE companies, management is perceived to be strongly interested in environmental damage/risks (it received the highest possible score from all respondents) (Steurer/Konrad 2009). Top management also emerged as the most important interest group exerting influence on the environmentally-friendly behaviour of companies in Slovenia (Rojšek 2001). Although some researchers argue that its role is not only important because of its direct impact on a company's environmental strategy (Lee/Ball 2003), but also because it can modify the influence of other stakeholders (Banerjee et al. 2003), our original model posits it as one of the four antecedents. The reason lies in the importance assigned to it in previous research in the examined context (e.g. Rojšek 2001; Steurer/Konrad 2009; Nagypal 2014). Later, an alternative model is also tested where top management commitment mediates between the motives and corporate environmental strategy (as in Banerjee et al. 2003). In line with these arguments, we develop the following hypothesis:

H4: Top management commitment positively influences the development of a corporate environmental strategy.

2.2. Environmental strategy and its implementation

A *corporate environmental strategy* is 'a set of initiatives that mitigate a firm's impact on the natural environment' (Walls/Phan/Berrone 2011:73). It addresses the extent to which environmental issues are integrated into such a company's decisions like starting new businesses, the choice of technology, plant locations, etc. (Banerjee et al. 2003). Companies can realise environmental strategy by implementing products, processes and policies that reduce energy consumption and waste, use ecologically sustainable resources and employ environmental management systems (Bansal/Roth 2000).

Although the inclusion of environmental issues into strategic management is important, merely formulating a strategy is not enough if the strategy is not implemented (Epstein 1996). Several authors (e.g. James et al. 1999; Saha/Darnton 2005) found a gap between the formulation and implementation of environmental strategy. One main reason for this is that policy formulation often takes little account of the company's capability to implement the planned environmental strategies (James et al. 1999). Further, as there are limited legal obligations to disclose all bad practices in environmental reports companies can, at least to some extent, communicate a more environmentally friendly strategy compared

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to what they actually plan to do (Saha/Darnton 2005). For these reasons, the conceptual model in this paper not only includes corporate environmental strategy, but also separately addresses its implementation through the realisation of functional activities. The theoretical background for this conceptualisation can be found in traditional strategic management literature which assumes that the implementation of functional activities is necessary for the successful realisation of the corporate-level strategy (Wheelen/Hunger 2006).

Within functional activities, we focus on purchasing, manufacturing and marketing business functions and label them 'green purchasing', 'green manufacturing', and 'green marketing'. There are two key reasons for focusing on these three functional areas: (1) they represent three core parts of each manufacturing company's business process; and (2) most of the literature related to green functional activities focuses on these three fields, while much less is published about other business functions (such as green finance, etc.).

When discussing the inclusion of environmental issues into a company's purchasing business function existing literature mostly uses the term environmental or *green purchasing*. Carter and Carter (1998:659) define environmental purchasing as 'the purchasing function's involvement in activities that include reduction, recycling, reuse, and substitution of materials'. Similarly, Min and Galle (2001:1223) define it as an 'environmentally-conscious purchasing practice that reduces sources of waste and promotes recycling and reclamation of purchased materials without adversely affecting performance requirements of such materials'. Based on these definitions, three common approaches within the environmental purchasing can be pinpointed, namely resource reduction, product reuse, and recycling. Because the involvement and support of suppliers is critical for achieving green purchasing goals, Rao and Holt (2005) argue that green purchasing strategies are centred around two main components, the evaluation of a supplier's environmental performance and mentoring to assist suppliers in improving this performance.

Green manufacturing should address three fundamental questions: product planning, disclosure policy (how should data on pollution be gathered and disclosed), and pollution-prevention programmes (Kleiner 1991). Some authors (e.g. Gupta 1995; Lee 2003) understand green manufacturing quite broadly, i.e. not only as decisions related to quality, capacity, and inventory but also, or even primarily, to green product and process development. Such a broad understanding of green manufacturing means the concept is also closely interlaced with activities within the R&D function, at least its 'development' part. Finally, environmental or *green marketing* refers to 'activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants … with minimal detrimental impact on the natural environment' (Polonsky 1995:30-31). In more general terms, it can be understood as marketing activities that are beneficial to

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the environment (Menon/Menon 1997). According to Banerjee, Gulas and Iyer (1995), the basis of such a strategy should be the greening of a company's marketing mix.

With regard to the link between corporate environmental strategy development and its execution, we have already argued that ultimately managers are always 'faced with the straightforward task of simply getting things done' (Hrebiniak 2005 a:57) otherwise the whole strategy development phase may be worthless. The prevailing strategic management theory (Hrebiniak 2005 b; Wheelen/Hunger 2006) undoubtedly supports the need to implement the developed strategies in order to achieve strategic goals and teaches us that functional activities must be implemented to support the implementation of corporate strategies (Wheelen/Hunger 2006). This leads us to hypothesise that the more a company is truly devoted to including environmental issues in its corporate strategy the greater the pressure will be to implement this strategy through the execution of functional activities. Based on the presented arguments, we develop the following hypotheses:

H5: The development of a corporate environmental strategy positively influences the implementation of: (a) green purchasing; (b) green manufacturing; and (c) green marketing activities.

2.3. The results of environmental strategy

The final part of our conceptual model discusses the results of environmental strategy. The literature focuses on two types of environmental strategy results – direct results reflected in a company's environmental performance and indirect results represented by indicators of economic performance (Carmona-Moreno/Céspedes-Lorente/De Burgos-Jiménez 2004). A comprehensive meta-analysis of the relationship between corporate environmental and financial performance can be found in Endrikat/Edeltraud and Hoppe (2014). When talking about *company performance* we address financial/economic performance and not environmental performance because the focus of our paper is to understand how a company's financial/economic performance is affected. We understand it as 'financial impacts of the application of firm environmental strategies' (Clemens/Bakstran 2010:395). Corporate financial performance is considered as multi-dimensional in nature (Endrikat et al. 2014). Bausch and Fils (2009) distinguish between accounting-based (return on assets, return on equity, return on investment, return on sales, net income, and cash flow per sales or per assets), market-based (Tobin's q, market-to-book ratio, the Sharpe ratio, the Treynor index, Jensen's alpha, and stock returns) and growth-based (sales growth, market share growth, asset growth, and earnings per share growth) measures of performance. Regarding company economic (financial) performance Endrikat et al. (2014) in a similar way distinguish between market-based (e.g. market value, stock returns etc.)

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and accounting-based measures (e.g. return on assets (ROA), return on sales (ROS), and return on equity (ROE)), focusing more on end-state measures. According to Peloza (2009), a very large majority of studies use end-state metrics of performance that can by their classification be categorised into three types: market approaches, internal accounting approaches and perceptual approaches, where company performance is qualitatively assessed using either internal or external sources. Baker and Sinkula (2005) identify three themes in connection with company economic performance measures: (1) the majority of performance measures are subjective (self-report), however, research shows they are highly correlated with objective measures (e.g., ROI, sales growth); (2) performance is a multidimensional concept that consists of effectiveness, efficiency, and adaptability; and (3) out of these three dimensions managers find performance measures that reflect effectiveness most useful.

Environmental strategies have positive consequences on a company's environmental performance indicators such as reduced waste, lower energy consumption, acquired environmental standards, better quality, improved green image etc. (e.g. Banerjee 2001; Carmona-Moreno et al. 2004; Chan 2005). On the other hand, the direct effect of environmental strategies on economic/financial performance has received relatively mixed support in extant literature. In the initial stages of developing environmental management, authors have argued that a company's environmental initiatives might worsen its financial performance (Ahmed/Montagno/Firenze 1998). This initial notion has been revitalised by some studies that found negative (Wagner/van Phu/Azomahou/Wehrmeyer 2002; Bansal 2005) or null (e.g., Carmona-Moreno et al. 2004; Aragón-Correa/Rubio-López 2007; Lee/Rhee 2007) relationships between environmental strategies and company performance. On the other hand, however, an even greater number of studies suggest the positive influence of an environmental strategy on a company's competitive advantage (Porter/Van der Linde 1995; Banerjee 2001) and financial performance (e.g. Klassen/McLaughlin 1996; Russo/Fouts 1997; Marcus/Geffen 1998; Sharma/Vredenburg 1998; Klassen/Whybark 1999; Christmann 2000; Chan 2005; Aragón-Correa/Hurtado-Torres/Sharma/García-Morales 2008).

Why would the relationship between environmental strategies and financial performance be negative or positive? The arguments behind the negative relationship are that environmentally responsible companies need to invest more in products and processes (Freeman 1994; Judge/Hema 1994), which increases their costs compared to more opportunistic (i.e. environmentally less friendly) competitors and consequently negatively influences their performance (Walley/Whitehead 1994; Cordeiro/Sarkis 1997). While we agree that environmental protection activities create additional costs, we argue that these costs are not isolated but have several positive financial consequences for a company, especially if they are properly perceived by the relevant stakeholder groups (Carmona-

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Moreno et al. 2004). Based on review of studies on improvement in both environmental and economic performance Ambec and Lanoie (2008) point out that the costs of reducing pollution can be partly or completely compensated by gains made elsewhere. Indeed, several authors explain the positive influence of environmental strategies on financial performance by the generation of valuable organisational capabilities and an improved social reputation of a company (Marcus/ Geffen 1998; Sharma/Vredenburg 1998; Klassen/Whybark 1999; Christmann 2000). Further, newly developed organisational capabilities will encourage companies to re-engineer their technology, which not only improves quality but also lowers costs (Porter 1991). Based on the above discussion, we can conclude that there is no unified evidence about the relationship between the environmental strategies and economic performance of companies. This discrepancy could also be a result of different concepts and research methods used by researchers in environmental studies (for a discussion, see Orlitzky/Schmidt/ Rynes 2003; Quazi/Richardson 2012; Dixon-Fowler/Slater/Johnson/Ellstrand/ Romi 2013). Nevertheless, results of several meta-analyses (e.g, Orlitzky et al. 2003; Dixon-Fowler et al. 2013; Endrikat et al. 2014) of existing empirical studies on environmental issues support the position that it 'pays to be green'. In the previous section, we already argued that developed strategies need to be implemented in order to achieve strategic goals. In line with this argument, we propose that corporate environmental strategy only indirectly (through the implementation of functional activities) influences company performance. In the following paragraphs, we discuss the relationship between the proposed three functional activities and company performance.

Due to its position at the beginning of the value chain green purchasing can play a key role in a company's efforts to improve its environmental performance. It can not only identify packaging that can be more easily recycled or reused, but can also suggest alternative sources of supply and use early supplier involvement to improve the environmental acceptability of inputs (Carter/Kale/Grimm 2000). In addition, green purchasing is positively related to net income and negatively to the cost of goods sold, thus providing evidence that environmental purchasing is positively related to a company's financial performance (Carter et al. 2000). Greening the purchasing function also includes integrating suppliers into a green supply chain. If suppliers have their own environmental management system and green operations, this leads to decreased production of waste at source, resulting in improved resource utilisation and enhanced economic performance (Rao/Holt 2005). On the other hand, the high cost of environmental programmes is the most serious obstacle to effective green purchasing (Min/ Galle 1997), which is even more evident in relatively small firms (those with fewer than 500 employees) (Min/Galle 2001). However, green purchasing is less expensive for manufacturers to implement than other green practices (Zhu/

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Sarkis/Lai 2007). We therefore assume that the benefits outweigh the costs, leading to a positive impact of green purchasing on economic performance.

As for the manufacturing business function, environmental issues are not just rapidly becoming a vital topic in strategic manufacturing research (e.g. Walley/Whitehead 1994; Porter/Van der Linde 1995; Azzone/Bianchi/Mauri/Noci 1997), but are also treated by managers as a basic competitive priority alongside lower costs and production lead time or higher quality (Noci 1995; Azzone/Noci 1998). The influence of environmentally friendly manufacturing on company performance is multi-dimensional. Azzone and Noci (1998) argue that there can be no improvement in a company's environmental performance without proper manufacturing strategic choices such as environmental product planning, innovative production processes that build on green end-of-pipe solutions and the implementation of green technologies, and clean logistics. Past research has also shown that green manufacturing leads to quality improvements (Dechant/Altman 1994; Shrivastava 1995 b; Florida 1996) and provides cost advantages (Banerjee 2001) either by using recycled materials which lowers raw material costs (Porter/ Van der Linde 1995; Shrivastava 1995 b; Banerjee 1998) or by decreasing waste production which reduces the costs of clean-up operations (Azzone et al. 1997; Maxwell et al. 1997; Sharma/Vredenburg 1998). According to Dornfeld, Yuan, Diaz, Zhang and Vijayaraghavan (2013), early green manufacturing practices focused a lot on emissions control and waste management, where the capital cost requirements were high, the payback period long and, in some cases, the capital input of emissions control could surpass the total amount of direct economic gains. But as green manufacturing practices are switching from end-of-the pipe emissions control to pollution prevention, the economic barrier of green manufacturing is gradually diminishing. Further, the green product and process innovation in manufacturing we are focussing on in our research has a positive effect on corporate competitive advantage (Chen/Lai/Wen 2006).

Green marketing programmes can also have a positive effect on a company's performance. They may improve a company's image and reputation among customers (Fraj-Andrés/Martínez-Salinas/Matute-Vallejo 2009) and enable companies to enter new market segments of environmentally concerned customers resulting in increased sales volumes (Banerjee et al. 2003). Favourable effects can also be detected on the cost side (for a review, see Leonidou/Katsikeas/Morgan 2013). Yet a warning was issued that the majority of customers are unlikely to compromise on traditional product attributes such as convenience, availability, price, quality, and performance (Ginsberg/Bloom 2004), meaning that green products must match those attributes of non-green ones in order to be considered by the majority of customers. Leonidou et al. (2013) discovered that each green marketing mix component influences the product-market performance and ROA directly or indirectly. Customers appear to assign a higher value to 'hard' green marketing mix elements (product and distribution), where

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changes can be more difficult and costly to implement. These high costs might be the reason there are no significant effects of product and distribution changes on ROA. On the contrary, green pricing and promotion strategies influence ROA but have no effect on the product-market performance, meaning it is more difficult to impress customers and other stakeholders with 'soft' green marketing approaches (promotion and pricing). Customers might perceive that these changes can be easily implemented and copied by competitors. Although our conceptualisation and measurement of green marketing involves one general construct, we follow the first group of authors and propose a positive influence of green marketing on performance.

In addition to the above direct support for links between the implementation of the three functional green strategies and company performance, further support for these links can be located in several studies (e.g. Pellegrinelli/Bowman 1994; Raps 2004; Brenes/Mena/Molina 2008) not related specifically to environmental strategies but strategies in general, which found that the execution of strategy implementation activities positively influences company performance. As already argued at the beginning of this section, we also propose that just having an environmental strategy is not enough and that its influence on performance is indirect through functional activities. In line with the discussed arguments, the final set of hypotheses reads:

H6: The implementation of (a) green purchasing, (b) green manufacturing, and (c) green marketing activities positively influence company performance.

H7: Corporate environmental strategy has an indirect, positive effect on performance through: (a) green purchasing; (b) green manufacturing; and (c) green marketing.

3. Research methodology

Variables for our model were operationalised on the basis of operationalisations used in past research with some modifications. Scales from different studies were used in this research. Statements about the corporate environmental strategy and green marketing were based on the scales developed by Banerjee et al. (2003), while to measure green purchasing we used a modified scale of Zsidisin/Hendrick (1998) and for green manufacturing we adapted the scale used by Prašnikar et al. (2012) for green operations and products. Our measurement of the motives for environmental strategies relied on the scales developed by Banerjee et al. (2003), whereas to measure the results of environmental strategies we adapted the scale on profit performance from Jap (1999). Each statement was evaluated on a scale from 1 to 5, where 1 means 'not true at all' and 5 means 'completely true'. After we checked the content validity, we adjusted the scales and tested the questionnaire on ten companies.

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In line with Baker and Sinkula's (2005) finding, we focus on the effectiveness facet of the economic performance and measure it with perceptual measures. Based on market specificities (only 13 manufacturing companies are listed on the national stock exchange) market-based measures do not make sense in our case. We also do not use accounting returns which depend on managers' discretionary distributions of funds to different projects and policy choices, and as a result more reflect internal decision-making capabilities and managerial performance than external market responses to organisational (non-market) activities (Orlitzky et al. 2003).

The population for the research is defined as all manufacturing companies with more than 50 employees in Slovenia. As a post-transition country Slovenia still deals with remains of its socialist heritage in some areas (including corporate environmentalism), so not many companies actively encourage their employees to act in the area of corporate environmentalism (Prašnikar et al. 2012). Therefore, it represents an interesting context to test results of the studies from the more developed economies. We addressed the questionnaires to Chief Executive Officers of the companies included in the initial sample. The list of population elements came from the national Agency for Public Legal Records and Related Services that collects and processes financial data for all business entities in Slovenia. Out of 434 companies that were suitable for the research (the total number of manufacturing companies in Slovenia with more than 50 employees), 153 companies returned the questionnaires, which is a 35.3 percent response rate. In 39.5 percent of the companies the questions were answered by Chief Executive Officers, in 35.4 percent the respondents were middle managers, while in 25.2 percent of the companies the questionnaire was completed by other groups of employees (representatives of management responsible for environmental protection or heads of different advisory departments).

Companies in the final sample come from 22 different manufacturing industry groups. Most of them operate in the industry of motor vehicles, trailers, and semi-trailers manufacturing (15.0 percent), followed by machinery and equipment manufacturing (12.2 percent), furniture manufacturing (10.2 percent), fabricated metal products (except machinery and equipment) manufacturing (8.2 percent), leather and related products manufacturing (7.5 percent), rubber and plastic products manufacturing (6.8 percent), and basic metals manufacturing (5.4 percent), while the remaining 34.7 percent of companies operate in 15 other manufacturing industries. As for company size, the final sample includes 73.5 percent of small and medium-sized companies (up to and including 250 employees), and 26.5 percent of large companies (with more than 250 employees). The average return on assets for the surveyed companies was 5.1 percent.

The properties of the proposed research constructs were tested with structural equation modelling (SEM). The SEM procedure was appropriate to test the pro-

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posed theoretical model because it enabled us to evaluate how well the proposed conceptual model that contains observed variables and unobserved constructs explained or fit the collected data (Bollen 1989; Hoyle 1995). The data were first tested for kurtosis and skewness, and all the data except for one item for purchasing were found to be within acceptable limits of +1/−1. However, both Shapiro-Wilk and Kolmogorov-Smirnov tests indicated the data were not normally distributed and we therefore decided to remedy this by using the bootstrapping method (5,000 bootstrap samples were drawn).

4. Empirical analysis and results

4.1. Measurement model

First, a confirmatory factor analysis (CFA) to test the measurement model was performed. We used the covariance matrix as an input to Mplus version 7.3. Although we had used some previously validated scales, certain items turned out problematic, presumably due to translation or cultural differences. Therefore, the problematic items for each construct were discarded one by one based on low loadings on the designated construct. Items needed to be discarded for regulatory forces, expected competitive advantage, corporate environmental strategy, green purchasing and manufacturing. Table 1 shows the retained measurement variables and the proposed constructs. The measurement model has a statistically significant value of the chi-square test ($\chi^2 = 369.74$, $df = 230$, $p < 0.01$). However, the proportion between the chi-square value and degrees of freedom is low and therefore within an acceptable range ($\chi^2/df = 1.61$). RMSEA (0.063) and SRMR (0.047) show an acceptable fit. Also based on other relevant measures (CFI = 0.94, TLI = 0.92)) we may conclude that the fit of the measurement model is acceptable (Bollen 1989; Hoyle 1995).

We then conducted reliability analysis (Table 1). All values for composite reliability (except for regulatory forces) are above 0.70 (Nunnally 1978). The composite reliability of regulatory forces is still above 0.60, which is a minimum threshold suggested by Bagozzi and Yi (1988). According to a complementary measure for construct reliability – the average variance extracted (AVE) all constructs have acceptable reliability. We also tested the model for convergent and discriminant validity. In line with Anderson and Gerbing (1988), all t-values of the loadings of the measurement variables on the respective latent variables are statistically significant. Thus, convergent validity is supported. Discriminant validity was assessed with the approach proposed by Fornell and Larcker (1981). For all pairs of latent variables, values of AVE were greater than the square of correlation between the latent variables, thus supporting discriminant validity.

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Table 1: Overall CFA for the modified measurement model (n = 153)

Constructs and indicators	*Std. loading*	*M*	*SD*
Regulatory forces (EX) α = 0.66; CR = 0.67; AVE = 0.50			
Environmental legislation affects the continued growth of our firm.	0.67	3.24	1.01
Our industry faces strict environmental regulation.	0.74	3.53	1.10
Public concern (EX) α = 0.80; CR = 0.81; AVE = 0.60			
The public is very concerned about environmental destruction.	0.60	3.07	0.99
Our customers are increasingly demanding environmentally friendly products.	0.85	3.45	0.99
Our customers expect our firm to be environmentally friendly.	0.84	3.60	1.02
Expected competitive advantage (EX) α = 0.84; CR = 0.84; AVE = 0.63			
By regularly investing in research and development on cleaner products and processes, our firm can be a leader in the market.	0.83	2.97	1.11
Our firm can increase its market share by making our current products more environmentally friendly.	0.81	3.03	1.11
Reducing the environmental impact of our firm's activities will lead to a quality improvement in our products and processes.	0.74	3.20	1.04
Top management commitment (EX) α = 0.91; CR =0.91; AVE = 0.84			
The top management in our firm is committed to environmental preservation.	0.94	3.44	1.01
Our firm's environmental efforts receive full support from our top management.	0.89	3.75	0.95
Corporate environmental strategy (ED) α = 0.85; CR = 0.86; AVE = 0.66			
Our firm has integrated environmental issues into our strategic planning process.	0.77	3.84	0.98
We make every effort to link environmental objectives with other corporate goals.	0.85	3.87	0.94
Environmental protection is the driving force behind our firm's strategies.	0.82	3.71	0.98
Green purchasing (ED) α = 0.81; CR = 0.84; AVE = 0.72			
We regularly evaluate our suppliers regarding their environmental activities.	0.97	3.09	1.19
We use specific environmental standards for evaluating our suppliers.	0.71	2.97	1.23
Green manufacturing (ED) α = 0.73; CR = 0.71; AVE = 0.56			
We launch green technological solutions that are new in our industry.	0.76	3.05	1.13
We encourage innovations that result in reduced energy and material consumption.	0.73	3.43	1.10
Green marketing (ED) α = 0.90; CR = 0.90; AVE = 0.75			

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Constructs and indicators	*Std. loading*	*M*	*SD*
We emphasise the environmental aspects of our products in our ads.	0.84	3.22	1.19
Our marketing strategies have been considerably linked to environmental issues.	0.87	3.14	1.06
We highlight our commitment to environmental preservation in our marketing.	0.88	3.32	1.10
Company performance (ED) α = 0.83; CR = 0.83; AVE = 0.62			
With our environmental strategy we have achieved long-term advantages.	0.72	2.68	1.05
As a consequence of implementing our environmental strategy we have achieved a high level of profits.	0.85	2.22	0.93
Our investments in environmental protection have generated profit.	0.78	2.74	0.98

Notes: EX = exogenous construct. ED = endogenous construct.

To test for common method bias, the procedure recommended by Lindell and Whitney (2001) was used. As Lindell and Whitney (2001) suggest, we used 'filler' scales (those irrelevant to the hypotheses) that were placed immediately after the theoretically relevant independent variables (motives) and before the final dependent variable (performance) in a set of marker variables. We also kept in mind that the questionnaire should not be too long to avoid boredom and fatigue. We followed the recommendation to include one or more marker variables that are designed to estimate the effect of common method variance by being more similar to the independent variable in terms of semantic content, close proximity, small number of items, newness of content, and narrowness of definition (Harrison et al. 1996). We selected a scale that measured green solutions' availability (two items, Cronbach alpha = 0.69) that is theoretically unrelated to at least one scale employed in our analysis and used it as an 'MV marker' (a proxy for method variance). A large proportion of nonsignificant positive and negative correlations suggest that a variable has a true correlation of zero. We picked the smallest positive value of r_{Yi} as the estimate of r_S. Using the smallest positive value of r_{Yi} is more conservative because there are almost always fewer correlations between the predictors and the criterion than among the predictors, this affording less opportunity for capitalisation on chance in the selection of the smallest correlation (Lindell/Whitney 2001). The correlations among the study constructs were adjusted and the statistical significance of the adjusted correlations was determined using the formulas proposed by Lindell and Whitney (2001). Results are reported in Table 2 with zero-order correlations reported below the diagonal and adjusted correlations reported above the diagonal. According to Lindell and Whitney (2001), if any correlations that were statistically significant before the adjustment remain significant, we can assume that the results cannot be accounted for by common method variance. All correlations between

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the variables from our analysis stayed significant at $p < 0.01$. The results therefore suggest that common method bias is not a serious concern in this study.

Table 2: Matrix of intercorrelations and square roots of AVE

Constructs	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
(1) Regulatory forces	*0.71*	0.36**	0.28**	0.31**	0.41**	0.46**	0.53**	0.49**	0.30**	0.04
(2) Public concern	0.37**	*0.77*	0.60**	0.56**	0.58**	0.56**	0.63**	0.66**	0.29**	0.15
(3) Expected competitive advantage	0.29*	0.61**	*0.79*	0.59**	0.47**	0.51**	0.67**	0.67**	0.66**	-0.02
(4) Top management commitment	0.32**	0.57**	0.60**	*0.92*	0.72**	0.51**	0.67**	0.66**	0.41**	0.09
(5) Corporate environmental strategy	0.42**	0.59**	0.48**	0.73**	*0.81*	0.69**	0.67**	0.78**	0.39**	0.07
(6) Green purchasing	0.47**	0.57**	0.52**	0.52**	0.70**	*0.85*	0.59**	0.63**	0.37**	0.12
(7) Green manufacturing	0.54**	0.64**	0.68**	0.68**	0.68**	0.60**	*0.75*	0.59**	0.64**	0.05
(8) Green marketing	0.50**	0.67**	0.68**	0.67**	0.78**	0.64**	0.60**	*0.87*	0.47**	0.00
(9) Company performance	0.31*	0.30**	0.67**	0.42**	0.40**	0.38**	0.65**	0.48**	*0.79*	0.01
(10) Green input availability (MV)	0.06	0.17	0.00	0.11	0.09	0.14	0.07	0.02	-0.03	*0.73*

Notes:* Significant correlation at $p < 0.05$ (2-tailed). ** Significant correlation at $p < 0.01$ (2-tailed). Below the diagonal: zero-order correlations. Above the diagonal: correlations adjusted for potential common method bias.
On the diagonal: square root of AVE.

4.2. Structural model

The final structural equation model (Figure 2) includes the exogenous latent variables regulatory forces, public concern, an expected competitive advantage and top management commitment, and the endogenous latent variables corporate environmental strategy, green purchasing, green manufacturing, green marketing, and company performance. We also used the bootstrapping procedure when testing the structural model. We applied bias-corrected bootstrap confidence intervals to assess indirect effects as suggested by Preacher and Hayes (2008).

Based on the literature review (García et al. 2009; Earnhart et al. 2014), we also included two control variables: company size and export orientation that were in the examined context of transition and post-transition economies found to influence environmental management and strategies. The two variables were coded as dummy variables (for size: 0 = 250 employees or less, 1 = more than 250 employees; export orientation: 0 = 50% or less exports, 1 = more than 50% exports).

The predictor variables explain most of the explanatory variables well (R^2 = 0.776 for corporate environmental strategy; R^2 = 0.578 for green purchasing; R^2

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= 0.640 for green manufacturing; $R^2 = 0.760$ for green marketing and $R^2 = 0.436$ for performance). Like with the measurement model, the structural model also has a statistically significant value of the chi-square test ($\chi^2 = 456.83$ $df = 247$, $p < 0.001$), but the proportion between the chi-square value and the degrees of freedom is within an acceptable range ($\chi^2/df = 1.85$). RMSEA (0.075) and SRMR (0.065) reveal an acceptable fit, while CFI (0.902) and TLI (0.881) are slightly below the critical value.

The majority of the parameter estimates are statistically significant and in most cases consistent with the proposed direction in the hypotheses. Table 3 presents the results of testing the proposed hypotheses, while additional results of the analysis of indirect effects are presented in Table 4. The results are in line with expectations concerning the effect of regulatory forces, public concern, and top management commitment on corporate environmental strategy, and of corporate environmental strategy on green purchasing, green manufacturing and green marketing. On the other hand, the results are not in line with expectations concerning the effect of expected competitive advantage on corporate environmental strategy, and all effects of implementation activities on company performance. Analysis of the bias-corrected bootstrap confidence intervals reveals that the total indirect effect of corporate environmental strategy on performance is statistically significant. An examination of the specific indirect effects indicates that only the 95% confidence interval for green manufacturing does not contain zero, so only H7 b can be supported. Regarding the effects of control variables (Table 5), company size does not have a statistically significant effect on any of the endogenous variables, while export orientation has a statistically significant negative effect on green manufacturing.

Table 3: Results of testing the hypotheses of direct effects (H1-H6)

Hypotheses	*Proposed direction*	*Standardised path coefficient (t-test)*	*Result*
H_1: Regulatory forces → Corporate environ. strategy	+	0.23 (2.63, $p < 0.05$)	Supported
H_2: Public concern → Corporate environ. strategy	+	0.23 (1.98, $p < 0.05$)	Supported
H_3: Expected compet. advantage → Corporate environ. strategy	+	0.20 (1.48, $p > 0.05$)	Not supported
H_4: Top management commitment → Corporate environ. strategy	+	0.46 (3.00, $p < 0.05$)	Supported
H_{5a}: Corporate environ. strategy → Green purchasing	+	0.76 (7.76, $p < 0.05$)	Supported
H_{5b}: Corporate environ. strategy → Green manufacturing	+	0.80 (5.67, $p < 0.05$)	Supported

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Hypotheses	*Proposed direction*	*Standardised path coefficient (t-test)*	*Result*
H_{5c}: Corporate environ. strategy → Green marketing	+	0.87 (7.25, $p < 0.05$)	Supported
H_{6a}: Green purchasing → Company performance	+	0.02 (-0.38, $p > 0.05$)	Not supported
H_{6b}: Green manufacturing → Company performance	+	0.58 (2.51, $p > 0.05$)	Supported
H_{6c}: Green marketing → Company performance	+	0.19 (1.12, $p > 0.05$)	Not supported

Table 4: Analysis of indirect effects for H7a-c with bootstrapping

		Bootstrapping BC 95% CI	
Effects from corporate environmental strategy to performance	Point estimate	Lower	Upper
Total indirect	0.585	0.378	0.929
Specific indirect			
Green purchasing → Corporate environmental strategy → Company performance (H7 a)	-0.057	-0.418	0.156
Green manufacturing → Corporate environmental strategy → Company performance (H7 b)	0.475	0.185	0.875
Green marketing → Corporate environmental strategy → Company performance (H7 c)	0.167	-0.107	0.493

Table 5: Results for the effect of control variables on endogenous variables

	Path coefficients				
Controls applied	Corporate environmental strategy	Green purchasing	Green manufacturing	Green marketing	Company performance
Size of company	0.0	0.07	0.02	0.09	0.01
Export orientation	0.12	0.01	-0.20*	-0.03	-0.05

* Effect significant at $p < 0.05$.

We also tested an alternative model where top management commitment is not one of the antecedents but mediates the effect of the three other motives on corporate environmental strategy (as in Banerjee et al. 2003). The model fit ($\chi^2 = 488.03$, $df = 248$, $p < 0.001$; $\chi^2/df = 1.97$, RMSEA=0.080, SRMR=0.095, CFI=

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0.888, TLI=0.864) was significantly worse than for our theoretical model. Therefore, we decided to keep our originally proposed model.

5. Discussion and conclusion

5.1. Summary of the results and theoretical implications

The study contributes to the body of knowledge on companies' environmental strategies and their implementation in the manufacturing sector: (1) by developing and testing a unique model in which motives and results were studied simultaneously; (2) by addressing both the development of a corporate environmental strategy and its implementation through functional activities, which allows us to test a corporate strategy's indirect influence on company performance; and (3) by testing the model in the context of a post-transitional economy.

The first theoretical implication of our study is that while in a post-transition economy only three groups of motives (regulation, public concern, and top management commitment) positively influence the development of a corporate environmental strategy their importance differs from what has been found in the context of developed market economies. In this study, top management commitment was found to be the most important motive (as in, for example, James et al. (1999) and in several descriptive studies from CEE countries (Rojšek 2001; Steurer/Konrad 2009; Nagypal 2014)), followed by regulatory forces and public concern, while several authors (e.g. Ghobadian et al. 1995; James et al. 1999; Banerjee 2001; Buysee/Verbeke 2003) found regulatory forces to be the strongest motive for environmental strategies in the context of developed markets. An expected competitive advantage was identified as the weakest motive (its effect on corporate environmental strategy was not statistically significant), similarly as in most previous studies where only a few authors found this motive to be an important driver of corporate environmental strategy (Taylor 1992; Shrivastava 1995 a; Parker 2000; Sharma 2001). The findings on the relative importance of the analysed motives suggest that, according to the political-economic framework, corporate environmental strategies are mostly driven by an internal political force (top management commitment), while all economic and external drivers (the three other motives) seem to be less important. While it is relatively easy to explain the importance of the internal drivers of a company's strategy (several core theories within strategic management, such as resource-based view, core competences, dynamic capabilities, etc., argue that competitive strategies and company performance are mostly internally driven), it is more difficult to understand why economic forces are less important than political ones. A possible explanation stems from the specifics of the context. According to Steurer and Konrad (2009), management in CEE companies is strongly interested in environmental damages/risks, as managers perceive that this is what their owners want. Besides, these type of motives are mainly present in companies that see governmental legislation as a threat (Coddington 1993; Banerjee 1998),

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which is the case in CEE companies. It seems that regulatory forces may be implicitly reflected in the importance of top management commitment. On the other hand, the low importance of economic forces could mean that CEE companies' managers still do not properly understand the long-term economic advantages of implementing green strategies, which is in line with Earnhart et al. (2014). These long-term economic advantages will probably be much better understood (and consequently the economic drivers of environmental strategies much stronger) once the emissions market is fully developed in all EU countries, including Slovenia.

As for the link between environmental strategies and their results, out of three implementation activities only green manufacturing has a significant direct effect on economic performance. On the other hand, the results reveal the positive influence of a corporate environmental strategy on all three analysed implementation activities and the positive total indirect effect of corporate environmental strategy on performance. Further analysis with bootstrapping bias-corrected confidence intervals revealed that this indirect effect is predominantly transmitted through green manufacturing. This finding has an important implication for the theory on (environmental) strategy implementation in that it shows that a planned corporate environmental strategy is useless unless it is actually implemented through the execution of green functional activities. Similar conclusions were also reached by several other authors (e.g. Epstein 1996; Hrebiniak 2005 b; Wheelen/Hunger 2006) who studied the importance of the execution of a planned (environmental) strategy. The reason for the insignificant effect of green purchasing on company performance may be that it is very difficult to say that stricter environmental standards on the input side result in considerable cost savings, whereas at the same time these efforts are probably not enough to improve a company's green image. The insignificant effect of green marketing on company performance might be explained by the findings of Leonidou et al. (2013) that customers value more the 'hard' elements of a marketing mix, which were not measured in our research.

Finally, the comparison of the motives and results of an environmental strategy further shows that post-transition companies do not perceive economic advantages of going green. Namely, among all studied motives, the managerial expectation of positive economic consequences of a corporate environmental strategy has the weakest (even not statistically significant) influence on the development of this strategy. At the same time, we found only a significant effect of green manufacturing on company performance. Further, the results show that a corporate environmental strategy, if properly implemented through green functional activities (especially green manufacturing), has an indirect positive effect on company performance. There are several possible explanations for these results. On one hand, managers in post-transition economies may develop environmental strategies for other reasons (e.g., to comply with regulation or to please their

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owners) even though they understand that implementing an environmental strategy pays off (at least in the long run). On the other hand, the reason may also be that managers 'incorrectly' perceived the positive consequences of their past environmental strategies, which resulted in their opinion that future environmental strategies should not be developed and implemented primarily because of an expected competitive advantage but for other (as the results show, mostly political) reasons. This perception is probably a consequence of the delayed positive results of past environmental strategies. Namely, most companies first face the costs of environmental strategies, while the benefits of these strategies, such as the generation of valuable organisational capabilities and an improved social reputation of a company (Marcus/Geffen 1998; Sharma/Vredenburg 1998; Klassen/Whybark 1999; Christmann 2000), are mostly delayed. An explanation for these results may also be found in the difference between CEE and WE companies, where WE companies behave proactively in their environmental practices, most CEE companies do it reactively and only attempt to fulfill EU standards, not to exceed them (Steurer/Konrad 2009). Since they do not go all the way, they might also not reap all the benefits of the environmental strategies.

5.2. Practical implications

In addition to the theoretical implications, the empirical findings set out here have several practical implications for a post-transition economy. In general, practitioners, especially managers in manufacturing companies and public policy decision-makers, might gain some new insights from our structural model which may help them craft better environmental strategies and policies. More specifically, practitioners can use our findings on three fronts. First, if companies want corporate environmental strategies to result in an improved performance they have to implement them through the execution of functional activities. Our results indicate that in the manufacturing sector especially manufacturing activities are critical. Therefore, managers must first introduce environmentally friendly processes that allow them to decrease the amount of waste produced and consume less energy and (raw) material. The manufacturing focus on greener processes with decreased energy and material consumption may then in the long run contribute to companies' technological competences and decrease their costs (Porter 1991), which positively affects company performance.

Second, within the discussion of the theoretical implications of our findings we argued that managerial perceptions of the expected competitive advantage as a motive might be underestimated due to the usually delayed positive results of environmental strategies. While we understand that many managers, especially given the uncertain situation the economy is still in, encounter a lot of pressure (exerted mostly by owners) to improve their company's short-term financial performance, we recommend that managers should not evaluate the expected re-

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sults of environmental strategies only through short-term indicators. Although in the short run we can agree with some authors (e.g. Freeman 1994; Cordeiro/Sarkis 1997) that, due to the need to invest in green products and processes, environmental strategies bring more additional costs than additional benefits, we believe that in the long run these additional costs are compensated by several positive financial consequences for a company. As already argued these long-term positive consequences are propelled by the improved image of a company as well as by improved quality and decreased long-term costs resulting from a company's newly developed capabilities (Porter 1991; Sharma/Vredenburg 1998; Klassen/Whybark 1999; Christmann 2000).

Third, the relative importance of the analysed motives for environmental strategies should also concern public policy decision-makers. The finding that managers see an expected competitive advantage as the weakest motive indicates the absence of a market environment in which companies should be able to boost their competitiveness by being environmentally proactive. In a similar way, Steurer and Konrad (2009) point out that CEE companies compared to their Western counterparts act reactively in their environmental strategies. The task of state and regional governments is therefore to create an environment in which companies will be even more economically motivated to implement proactive environmental strategies (Banerjee et al. 2003). The measures (such as full implementation of the emissions market) need to reward environmentally innovative technologies and increase the economic pressure on those less environmentally conscious. In addition to economic pressure, governments can do a lot to ratchet up the 'political' pressure on polluting companies. On one hand, they can provide financial and administrative support to different organisations and stakeholder groups which exert public pressure on environmentally ignorant companies. On the other hand, governments could also work together with different organisations on educating and encouraging customers to avoid ecologically problematic products, which would gradually minimise environmentally inefficient companies.

5.3. Limitations and suggestions for future research

An important limitation of our study is that it builds on the perceptions of the managers in the surveyed companies. The results could therefore be subject to a social desirability bias. In order to avoid the risk of a bad reputation, as concerns environmental protection individuals and businesses may present a brighter image than is truly the case. The results of our research in this aspect do not differ much from the results of similar studies (Henriques/Sadorsky 1999; Banerjee et al. 2003; Moon 2008), which also show that managers in the environmental protection field respond in much the same way. It would be quite embarrassing if it were proven that the top management does not support environmental protection

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initiatives. It would also be wrong if a company were, in this dimension, to appear problematic in the eyes of the public. This problem could probably be minimised by relying on more qualitative research methods (including in-depth interviews and direct observations) that allow a more detailed understanding of why companies execute environmental strategies.

Another limitation of our study is connected to the relatively small population that is dependent on the size of the economy. Consequently, the sample size is also relatively small. However, if the sample was larger, we would be able to analyse subsamples and provide some sort of typology for industries. It also needs to be emphasised that our study collected data from various companies operating in both organisational and consumer contexts. Such a uniform approach has strengths and weaknesses. Among the latter, it should be noted that the motives for environmental strategies might differ considerably between both contexts. Further research is therefore needed to tease out the potential differences across contexts and industries, and critically examine the potential shortcomings of the uniform approach applied here. In other words, our study offers the foundations on which a more refined understanding of the complexities involved in studying the causal-consecutive links presented in this study could be obtained.

The results of our study confirm the majority of the proposed hypotheses. Of the hypotheses that were not supported, one group stands out: the effect of implementation activities (green purchasing and marketing) on company performance. The literature contains generally mixed results on the relationship between environmental strategy and performance, with one of the possible reasons lying in the different ways to measure company performance. We used self-report measures focusing on the effectiveness dimension of company economic performance. According to Baker and Sinkula (2005) this is a common practice and research shows that subjective measures are highly correlated with objective measures (e.g. ROI, sales growth). Nevertheless, if we used different measures, the relationship between corporate environmental strategy and company performance could be different. Our phrasing of the measurement items for company performance could incur bias in the result that could go in two ways – it could lead to artificial inflation of the parameter estimates for its association with green strategy implementation or these items could be actually evaluated lower because managers do not perceive that the benefits outweigh the costs of these activities. To fix this issue, we correlated the construct with actual data on lagged company profit performance (EBIT) for three years and found significant correlations (from 0.19 to 0.22 for the three respective years, $p < 0.05$). Therefore, we assumed our construct could still act as a sufficient proxy for profit performance. However, using objective measures (lagged profit performance for three years) for the whole sample would be an ideal solution that would also reduce the possibility of common method bias in the study. Future research could

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therefore test the model with different ways for measuring company economic performance and compare the results of the models.

Another issue that pertains to our research is endogeneity (Antonakis/Bendahan/Jacquart/Lalive 2010). One of the important conditions to be met before we can reasonably infer a causal relationship between two variables is temporal precedence that can be achieved in experimental studies through the random assignment of sample elements to an experimental and a control group and in non-experimental studies through the use of longitudinal designs. However, in most SEM studies where all variables are measured simultaneously it is not possible to show temporal precedence (Kline 2014). Antonakis et al. (2010) argue that endogeneity (reasons for it being omitted variables, omitted selection, simultaneity, common-method variance and measurement error) leads to an inability to make a causal interpretation of estimates. They provide an overview of methods that researchers can use to overcome these limitations and ensure consistent estimates. It was not feasible to apply most of those methods in our study. However, we tested part of the model on the smaller sample of companies for which we could gather lagged performance data and the results were in line with the results obtained using the perceptual cross-sectional data. In future research, objective data on lagged performance should be collected for the whole sample. In addition, future research could also expand our research scope by distinguishing between a company's environmental performance and its economic/financial performance as indirect and direct results of environmental strategies.

Finally, our findings are based on a single sample of companies from a post-transition economy. We are aware that the results could be specific to our particular sample. The contribution to environmental strategy research would be even greater if we had included several post-transition economies, which opens another avenue for future research. Additional research would be needed to analyse the relationships between implementation activities and company performance that were found not to have significant effect on company performance in this research. In-depth interviews could be carried out with company representatives in different industries to learn more about the implementation of green functional activities (e.g. which ones they use, to what extent, what is the investment, how is the return on this investment measured etc.). In this way, scales could be further modified to better fit the actual context of post-transition economies.

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