

Drivers and performance outcomes of an eco-friendly corporate and marketing strategy in smaller manufacturing firms

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Abstract

With the intensification of problems relating to the environment, a growing number of firms are becoming more ecologically conscious. This paper presents the results of a study conducted among 103 small manufacturers located in Cyprus, focusing on the internal/external drivers of their eco-friendly strategy, and resulting performance outcomes. The findings confirmed the instrumental role of organisational resources and capabilities in forming an environmental orientation in these firms, as well as that of public concern (but not that of environmental legislation). This environmental orientation subsequently provides the basis toward building sound eco-friendly strategies at both the corporate and marketing levels. The implementation of these strategies is conducive to building an advantage against competitors, which was shown to enhance the firm's market (but not financial) dimensions of business performance. These findings have important implications for designing appropriate business strategies, as well as formulating the right policies at governmental level to enhance environmental sensitivity among small manufacturing units.

Keywords

Environmental marketing; Marketing strategy; Business performance; SMEs.

Introduction

The rapid pace of technological growth experienced by many industries in recent decades has been responsible for the creation of serious ecological problems, such as climatic changes, land degradation, and water pollution (Baker & Sinkula, 2005). This has given rise to ecologically-conscious consumers, who are increasingly seeking for goods that are friendly to the environment. This change in the marketing scene has inevitably pushed a growing number of firms, especially in developed countries, towards engaging in a process aiming at promoting a greener image, incorporating environmental elements into their marketing strategies, and, ultimately, communicating these to both their consumers and the general public (Drumwright, 1994; Kirkpatrick, 1990; Polonsky & Rosenberger, 2001). Although the bulk of this research was conducted among large manufacturing units, which have traditionally been accused of harming the environment through their high-polluting production processes and products, there are indications that small firms may also engage in actions that can be ecologically unfriendly (Leonidou & Leonidou, 2010). However, despite the critical role played by small producers in most economies, there is virtually no research focusing on their environmental business and marketing practices.

This paper aims to fill this gap in the literature, by seeking to provide answers to the following research questions relating to the environmental behavior of small business firms: (a) How can external and internal factors drive firms to adopt an ecological orientation? (b) How can this ecological orientation facilitate the formulation of sound environmental-based business and marketing strategies? (c) What is the role played by implementing these eco-friendly strategies in gaining a competitive advantage? (d) What are the effects of possessing this type of advantage on both market performance and financial performance? The remainder of the paper is organised as follows: In the following section, we review the pertinent literature on environmentally-based business/marketing strategy and performance. The conceptual framework of the study is then explained and the research hypotheses are formulated. The next section deals with the investigation method, followed by an analysis of the results relating to the testing of hypotheses. Finally, conclusions and implications are derived, and suggestions for further research made.

Previous research

Even though the idea of introducing environmental issues into designing and implementing sound strategies is not new (e.g., El-Ansary, 1974; Henion, 1972; Kassarian, 1971), only recently has this idea shifted into mainstream marketing consciousness and attracted the attention of scholars in the field. Four major streams of research are connected with this strategic approach to ecological issues (Leonidou & Leonidou, 2010). The *first* stream examines the role of various *external factors* that necessitate the adoption of eco-friendly strategies, with the imposition of environmental regulations attracting most of the attention, particularly focusing on corporate reaction/pro-action toward environmental legislation (Gray-Lee et al., 1994; Rugman & Verbeke, 1998). Another important issue covered in this category is green standards, with major themes centering on procedures in achieving environmental standards (Jiang & Bansal, 2003) and environmental certification effectiveness (Dowell et al., 2000). Another key external determinant is the environmental movement, with most of the attention given to consumerism, environmentalism, and environmental boycotting (Mirvis, 1994).

The *second* venue of research focuses on *internal determinants* of strategy, with the most commonly studied being: adjusting planning and control systems to take into account the risks relating to the adoption of environmental initiatives (Hunt & Auster, 1990), greening the organisational culture (Banerjee, 2002; Menguc & Ozanne, 2005), applying environmental thinking across all organisational layers (Bansal, 2003; Judge & Elenkov, 2005), and

pioneering environmental practices (Egri & Herman, 2000). A few articles (e.g., Fineman, 1996; Egri & Herman, 2000) also deal with the profile of the green manager, particularly focusing on his/her moral positions, leadership styles, and personal values/attitudes.

The *third* research stream concerns *environmental corporate strategy per se*. Of the elements of corporate strategy, production operations attracted most of the attention, covering such themes as environmental manufacturing technologies (Klassen & Whybark, 1999), green/lean production (King & Lenox, 2001), and pollution/waste reduction (King and Lenox, 2002). Marketing, as part of the overall corporate strategy, was also widely examined, mainly covering antecedents and consequences of environmentally-oriented marketing strategies (Menon & Menon, 1997; Baker & Sinkula, 2005). Financial aspects of strategy were examined less frequently, with the emphasis being mainly on the link between corporate social/environmental and financial performance (Orlitzky, 2001; Curcio & Wolf, 1996). Other strategic elements examined referred to supply chain management (Mendleson & Polonsky, 1995) and green alliances (Chen, 2001).

The *fourth* line of research covers *environmental strategy implications*, with the thrust placed on the performance implications of environmental strategies, particularly focusing on the relationship between environmental and financial performance, and the financial success derived from ecologically-friendly actions (Porter & Van der Linde, 1995; Klassen & McLaughlin, 1996). Another issue examined less extensively was the environmentally-driven competitive advantage, which is built upon the effective and efficient deployment of environmentally-related resources and capabilities (Russo & Fouts, 1997; Aragon-Correa & Sharma, 2003). A final issue refers to environmental benchmarking/best practices, providing guidelines to successfully implementing corporate environmental policies (Grove et al., 1996; Hart, 1997).

Theoretical background, research model, and hypotheses

Figure 1 presents the conceptual framework of the study, which consists of four major parts: antecedents (i.e., regulatory framework, public concern, firm resources, firm capabilities), attitudinal (i.e., environmental orientation), behavioral (i.e., eco-friendly corporate and marketing strategy), and outcome (i.e., competitive advantage, market performance, product performance). The model is theoretically anchored on two rival, but complementary, paradigms, namely that of *Resource-based view* and *Industrial Organisation theory*. The former adopts an inward perspective and stresses the role of valuable, rare, and non-substitutable resources/ capabilities in designing and implementing strategies that will subsequently help to achieve sustainable competitive advantages and improve effectiveness and/or efficiency (Barney, 1991). The latter follows an outside-in perspective, which is based on the co-alignment between the firm's strategy and the environment, whereby the external environment imposes pressures to which the firm responds by developing and implementing appropriate strategies that will subsequently lead to superior performance (Venkatraman & Prescott, 1990). Altogether, ten hypothesized associations between the constructs of the model were identified, which are presented in the following.

External factors and environmental orientation: Increasing concern about ecological issues has pushed many governments to enforce legislation (e.g., CO₂ emissions control) to protect the environment, especially in industries (e.g., chemicals) that are more likely to harm it (Ochner, 1998). Such legislation was found to push firms to adopt total quality environmental systems, adhere to comprehensive environmental standards, and take a more proactive eco-friendly stance (Banerjee et al., 2003). Hence, *the existence of a regulatory framework on protecting the environment will have a positive effect on the firm's environmental orientation*

(H₁). Public concern about the environment stimulates firms to become more ecologically conscious, since they wish to stress their socially responsible behaviour to various stakeholders (e.g., investors), as well as to attract customers who are environmentally responsible (Banerjee et al., 2003). In fact, it was confirmed that in countries with a high level of public concern, such as Sweden, the cultivation of eco-friendly spirit among firms is more widespread (Cagatay & Mihci, 2003). In brief, ***the existence of public concern about environmental issues will have a positive effect on the firm's environmental orientation*** (H₂).

Internal factors and environmental orientation: Organisational resources, such as those pertaining to specially trained personnel, unique technological knowledge, availability of financial means, are vital in promoting ecological thinking within the organization (Shrivastava, 1995). Such resources can facilitate building eco-friendly products and services, establishing environmental systems and processes, and greening all functions of the enterprise (Hart 1995; Buysee & Verbeke, 2003). In other words, ***the availability of organizational resources relating to the environment will have a positive effect on the firm's environmental orientation*** (H₃). Organizational capabilities refer to such issues as organisational learning, cross-functional coordination, and continuous innovation, that were found to be conducive of environmental approaches (Sharma & Vrendenburg, 1998). Some of these capabilities are incorporated into routines and processes that focus on either external (e.g., better image) or internal (e.g., value creation) green aspects of the firm (Marcus & Geffen, 1998). Thus, we may posit that ***the availability of organisational capabilities relating to the environment will have a positive effect on the firm's environmental orientation*** (H₄).

Environmental orientation and eco-based strategy: Firms that are environmentally-oriented can cultivate eco-friendly values in their key functional areas, while at the same time striking a balance between environmental protection and financial outcomes (Shrivastava, 1995). As such, environmental orientation affects thinking at all strategic levels within the organization (Banerjee et al., 2003), and therefore one would expect that: ***the more environmentally-oriented the firm, the greater the likelihood of it adopting an eco-friendly-based corporate strategy*** (H_{5a}). Since marketing strategy is at the forefront of corporate strategy, catering for the needs of customers, the firm's environmental orientation is expected to take on an ecological flavor in all its constituent parts, namely product, price, distribution, and promotion (Menon & Menon, 1997; Baker & Sinkula, 2005). Thus, ***the more environmentally-oriented the firm, the greater the likelihood of it adopting an eco-friendly-based marketing strategy*** (H_{5b}).

Eco-based strategy, competitive advantage, and performance: The implementation of an eco-friendly corporate strategy can help the firm to differentiate itself from its competitors and attract customers, particularly those who are sensitive to environmental issues (Menon et al., 1999; Hoffman, 2000). In other words, ***the adoption of an eco-friendly corporate strategy will create a competitive advantage for the firm*** (H₆). In similar vein, the implementation of an eco-friendly marketing strategy can be a serious source of differentiation from the competition and demonstrate socially responsible behaviour to both the general public and customers (Schwartz, 1990; Menon et al., 1999). Hence, ***the adoption of an eco-friendly marketing strategy will create a competitive advantage for the firm*** (H₇). Ultimately, by properly exploiting its eco-friendly competitive advantage, the firm is expected, on the one hand, to better satisfy eco-friendly consumers, strengthen customer loyalty, and attract new customers, and, on the other hand, improve its sales, enhance profitability, and facilitate cash flow (Bharadwaj et al., 1993; Carmona-Moreno et al., 2004). Hence, ***the firm's capitalisation on environmentally-based competitive advantage will positively influence both market performance*** (H_{8a}) ***and financial performance*** (H_{8b}).

Investigation method

The study took place in Cyprus, a small economy which is a member state of the European Union. A random sample of 400 firms was drawn from the Directory of Cypriot Manufacturers issued by the Cyprus Chamber of Commerce and Industry. This contains more than 3,600 entries, of which the overwhelming majority are small-to-medium-sized firms. All firms were contacted by telephone and asked to participate in the study and specify key informants who would be qualified to answer the questionnaire. Altogether, 103 firms agreed to take part in the study, while a non-response test, which compared respondents and non-respondents revealed no statistically significant differences.

The research tool was a structured questionnaire, consisting of four major parts, each reflecting the four components of the conceptual model. There was also another section referring to the demographics of the respondent, as well as other background information. All questions were measured on a 7-point Likert scale, anchored from 1= strongly disagree to 7= strongly agree. To secure linguistic consistency of the questionnaire, it was written in English and then back-translated into Greek, which is the official language of the country. The scales of the constructs employed were extracted from multiple literature sources (see **Appendix 1**).

Data were systematically collected from respondents based on a telephone survey, using the services of a professional call centre, while in some cases, personal interviews or drop-in questionnaires were also employed. The survey was conducted on a daily basis over a period of six weeks. Key informants were individuals who were directly responsible for the firm's business and marketing strategy, these usually being the owner or marketing manager. To test the conceptual model proposed, structural equation modeling was adopted (based on the EQS program), because it provides a useful framework for managing multiple relationships among constructs simultaneously (Hair *et al.*, 2006). The correlation matrix among the constructs of the model is shown in **Appendix 2**.

Findings and discussion

To assess the validity and reliability of the constructs and scales used in the conceptual model, two measurement models were estimated. The first was used to assess the external factors (i.e., regulatory framework and public concern), the internal factors (i.e., organisational resources and organisational capabilities) and corporate environmental orientation. The second included constructs such as eco-friendly corporate strategy, eco-friendly marketing strategy, competitive advantage, market performance, and financial performance. The results of both models provided a very good fit and the factors loaded highly on the specified constructs (see **Appendix 3** and **Appendix 4**). *Convergent validity* was satisfactory, since *t*-values for each item was greater than 4.0, standardised loadings were above .5, and all standard errors of the estimated coefficients were very low. *Discriminant validity* was also evident, since the confidence interval around the correlation estimate for each pair of constructs examined never included 1.0, and the chi-square difference between constrained and unconstrained models for every pair of inter-correlated constructs was always significant ($\Delta\chi^2_{(1)} > 3.84$; $p < .05$) (Anderson & Gerbing, 1988). All factors had *composite reliability* values and Cronbach's alpha estimates greater than .70, implying a reliable measurement of the theoretical construct as an element of the structural model (Bagozzi & Yi, 1988). The only exception was the construct of the regulatory framework, which had a composite reliability value slightly below the recommended cut-off point of .7 (Nunnally & Bernstein, 1994).

The hypothesised links between the constructs were tested using the structural model,

based on an elliptical re-weighted least squares (ERLS) estimation procedure. The analysis revealed a satisfactory structural equation model fit, as demonstrated by the ratio of Chi-square by the degrees of freedom (χ^2/df) = 1.51 and the results of the alternative fit indices (NFI = .88, NNFI = .95, CFI = .95, RMSEA = .071). The standardised path coefficients, together with the corresponding t -values of the structural model are presented in **Appendix 5**. Notably, with the exception of H₁ and H_{8b}, all hypotheses examined were found to be statistically significant and in the right direction.

The findings regarding the external environment show that while the stringency in the market in terms of environmental regulations is not significantly linked with the firm's environmental orientation ($\beta=.07$, $t=0.88$, $p=.38$), the level of public concern for the environment is conducive towards the cultivation of an environmental orientation by the firm ($\beta=.15$, $t=1.95$, $p=.05$). The findings provide strong support for the argument that superior organisational capabilities ($\beta=.84$, $t=5.86$, $p=.00$) and organizational resources ($\beta=.63$, $t=5.21$, $p=.00$) provide the impetus for a firm to develop an eco-orientation within the company. In line with previous research (e.g., Porter & Van de Linde, 1995), adopting an environmentally friendly stance in corporate ($\beta=.57$, $t=4.11$, $p=.00$) and marketing ($\beta=.32$, $t=2.86$, $p=.00$) strategy implementation can enhance the firm's competitive advantage. This is due to the significant cost savings, product/service improvements, and differentiation advantages that these strategies provide (Klassen & Whybark, 1999; Christmann, 2000). However, although our study confirmed that the superior competitive advantage derived from eco-friendly strategies can enhance market performance of firms ($\beta=.19$, $t=1.64$, $p=.10$), its positive impact on financial performance was not significant ($\beta=.17$, $t=1.50$, $p=.13$).

Conclusions, implications, and directions

Our study has stressed the role of both external and internal forces in sensitising small manufacturers toward becoming more friendly to the environment. An ecological orientation is vital in adopting eco-friendly strategies at both the corporate and marketing levels, which will subsequently create competitive advantage. By capitalising on this advantage, the firm will be in a position to improve its market performance, although, contrary to our expectations, its effect on financial performance is imperceptible. This unexpected finding can be explained by the fact due to the small size of the participant firms, the return on their investments on environmental issues takes time to yield results.

These findings have various implications for both business managers and public policymakers. Managers of small firms should appreciate the crucial role of eco-friendly strategies in gaining competitive advantage and market performance, and for this reason should carefully develop and handle appropriate resources and capabilities within their organisation. On the other hand, policymakers should try, through proper educational, regulatory, communication, and other policies, to cultivate the realisation among small manufacturing concerns that adopting an environmental approach to their business will be beneficial, especially in the long run.

The importance of our findings at both micro-business and macro-government levels necessitates the replication of the study in other countries, with different economic, sociocultural, and political-legal settings. It would also be interesting to examine the moderating effect of competitive intensity and market turbulence on the link between environmental strategies and competitive advantage. The effect of industry type and market orientation on the environmental behaviour of small firms also warrants investigation. Finally, to identify the long-term effects of the implementation of eco-friendly strategies on financial performance, it is important to embark on longitudinal research.

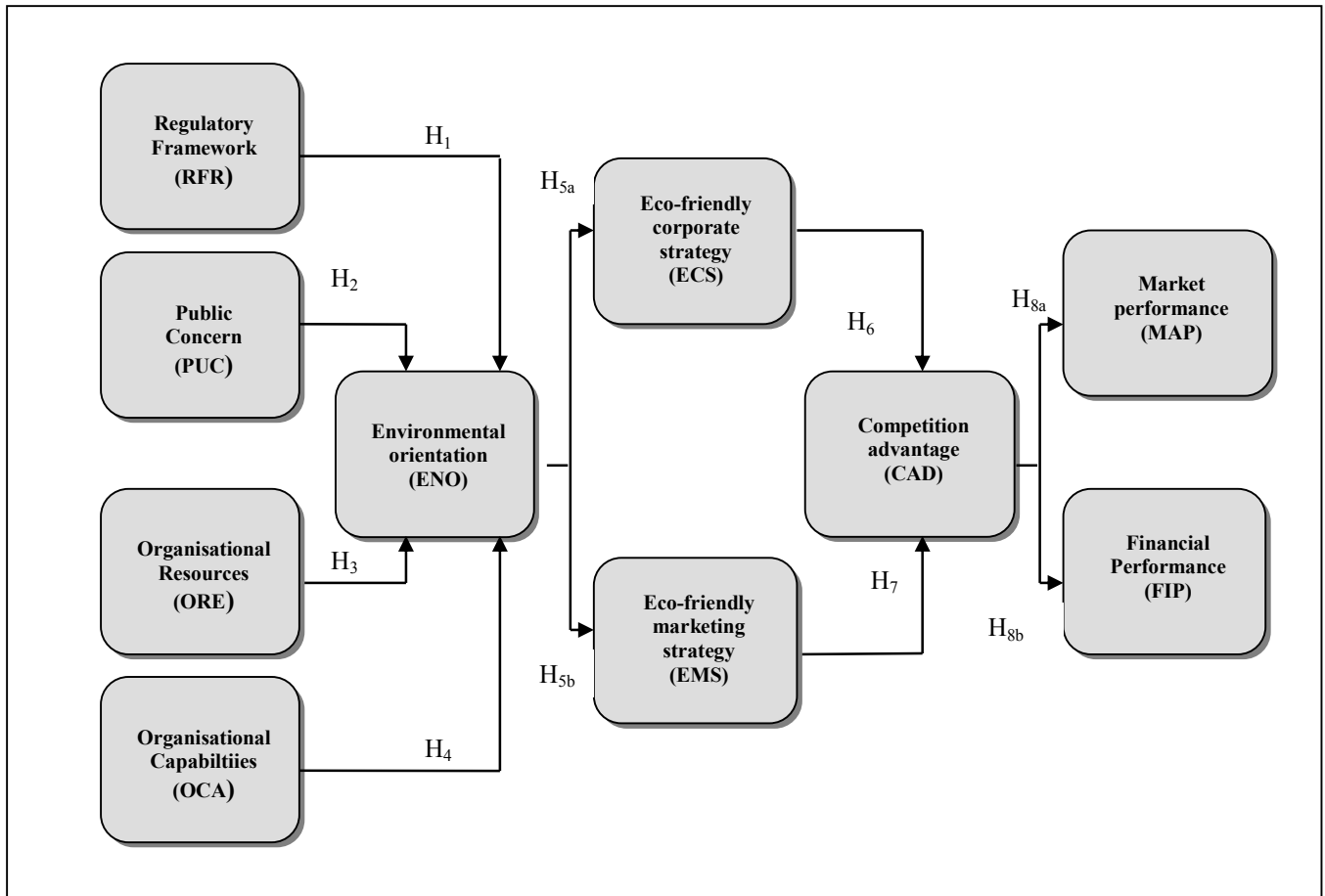
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Figure 1: The conceptual model



Appendix 1: Operationalization of constructs

Constructs	Item code	Item description	Source
Regulatory Framework	RFR1	Government regulations have influenced very much our firm’s environmental strategy	Banerjee et al. (2003)
	RFR2	Environmental legislation affects the growth of our firm	
	RFR3	Strict environmental regulations is a major reason for our firm to worry about its impact on the environment	
	RFR4	More strict regulations are required so that environmental responsible firms to be able to grow and survive	
	RFR5	The environmental efforts of our firm can determine future environmental legislation for our industry	
	RFR6	Our industry is influenced by strict environmental regulations	
Public Concern	PUC1	The public worries too much about the destruction of the environment	Banerjee et al. (2003)
	PUC2	The public worries more about the economy rather than the protection of the environment (R)	
	PUC3	The public shows great concern for environmental issues	
	PUC4	Our customers consider the protection of the environment as a critical issue facing the world nowadays	
	PUC5	Our customers increasingly demand products and services that are friendly to the environment	
	PUC6	Our customers expect our company to be friendly to the environment	
Organisational Resources	ORE1	Our firm has made investments in the production processes which are related to environmental skills	Verbeke et al. (20005)
	ORE2	Our firm has made investments in the environmental abilities of its employees	
	ORE3	Our firm has made investments in developing the environmental skills of the top management	
	ORE4	Our firm has made investments in organisational abilities which are related to environmental issues	
	ORE5	Our firm has made investments in Research & Development which are relevant to environmental issues	

Organisational Capabilities	OCA1	Our firm has the ability to seek solutions for environmental issues from different angles	Sharma et al. (2007)
	OCA2	Our firm pays great attention in satisfying customer demands	
	OCA3	Our firm focuses on having at its disposal pioneering, flexible, and innovative technologies	
	OCA4	In our firm, the managers and employees always agree to adopting the right environmental procedures	
	OCA5	In our firm, there are formal/informal systems for better coordinating environmental issues among departments	
	OCA6	Our firm always expands its knowledge regarding the interaction between business and physical environment	
Environmental Orientation	ENO1	The environmental issues are very relevant to the basic function of our company	Fraj-Andre s et al. (2008)
	ENO2	In our firm, we put an effort in making each employee understand the meaning of environmental protection	
	ENO3	We try to promote environmental protection as the objective of all departments in our company	
	ENO4	Our firm has a clear policy to promote environmental consciousness in all business areas	
	ENO5	Environmental protection is a top priority issue in our company	
	ENO6	The protection of the environment is a central value in our company	
	ENO7	The natural environment has an impact on the business activity of our firm	
	ENO8	The good financial situation of our firm depends on the condition of the natural environment	
	ENO9	In our firm, the protection of the environment contributes to a great extent to maintain its good image	
	ENO10	Environmental protection is of vital importance for the survival of our firm	
	ENO11	Our firm tries to have the image of an environmentally responsible organisation	
Eco-friendly Corporate Strategy	ECS1	Our firm has incorporated environmental issues in its strategic planning process	Banerjee et al. (2003)
	ECS2	In our firm, quality includes the reduction of the environmental impact of its products and processes	
	ECS3	In our firm, we put every effort into connecting environmental objectives with other corporate objectives	
	ECS4	Our firm is committed to developing products and processes that minimize environmental impact	
	ECS5	The protection of the environment is the driving force that guides our corporate strategy	
	ECS6	Environmental issues are always taken into consideration when developing new products	
	ECS7	Our company develops products and processes that minimize the negative impact on the environment	
Eco-friendly Marketing Strategy	EMS1	We emphasise the environmental aspects of our products in our advertisements	Banerjee et al. (2003)
	EMS2	The marketing strategies that relate to our products are influenced a lot by environmental concerns	
	EMS3	In our company, product-market decisions are always affected by environmental concerns	
	EMS4	We stress our commitment to environmental protection in our company's advertisements	
	EMS5	Our company tends to include environmental expenses in the prices of its products	
	EMS6	Our firm prefers strategic partners that embrace environmental responsibilities	
Competitive advantage	CAD1	To be an environmental conscious firm can lead to cost advantages	Banerjee et al. (2003)
	CAD2	We have achieved important cost advantages, by experimenting with improvement of environmental quality	
	CAD3	Through systematic investment in R&D for environmentally friendly goods, our firm can be a market leader	
	CAD4	Our firm can enter new, lucrative markets with the adoption of environmental strategies	
	CAD5	Our firm can increase market share, by making existing goods more friendly to the environment	
	CAD6	By reducing the environmental impact of our firm's activities, the quality of the products will improve	
Market Performance	MAP1	Customer satisfaction	
	MAP2	Customer retention	
	MAP3	Customer loyalty	
	MAP4	Reputation among end-users	
	MAP5	Market share	
	MAP6	Market share growth	
	MAP7	Rate of market development	
Financial Performance	FIP1	Profitability	
	FIP2	Profit growth	
	FIP3	Return on Assets	
	FIP4	Return on Investment	
	FIP5	Return on Sales	
	FIP6	Sales growth	
	FIP7	Cash flow	

Note: The sign (R) indicates a reversed scale

Measurement scales were based on a 7-point Likert scale, ranging from 1: Strongly disagree to 7: Strongly agree.

Appendix 2: Correlation matrix for latent variables

Constructs	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Regulatory framework	1									
2. Public concern	.32	1								
3. Organisational resources	.34	.32	1							
4. Organisational capabilities	.33	.32	.67	1						
5. Environmental orientation	.40	.39	.70	.75	1					
6. Eco-friendly company strategy	.35	.45	.68	.66	.78	1				
7. Eco-friendly marketing strategy	.22	.49	.61	.50	.60	.76	1			
8. Competitive advantage	.26	.52	.59	.57	.65	.74	.70	1		
9. Market performance	.20	.18	.07	.14	.10	.21	.07	.21	1	
10. Financial performance	.06	.20	.17	.19	.21	.15	.08	.21	.48	1

Note: Correlations greater than $|\pm 0.24|$ are significant at the .01 level.

Correlations greater than $|\pm 0.19|$ are significant at the .05 level.

Appendix 3: Measurement model I - Summary of construct measurement

Constructs	Scale items	Standardised loadings	t-value	α	ρ	AVE	Mean score	Stand. deviation	Items means	Items s.d.
Regulatory framework	RFR1	.71	*	0.72	0.68	0.41	4.03	1.61	4.40	2.06
	RFR2	.71	4.92						3.57	2.23
	RFR3	.57	4.30						3.81	2.29
	RFR6	.55	4.18						4.33	2.14
Public concern	PUC1	.62	*	0.81	0.75	0.53	4.11	1.43	4.02	1.60
	PUC2	.80	5.65						3.85	1.87
	PUC3	.85	5.78						4.17	1.89
	PUC3	.61	4.68						4.39	1.84
Organisational resources	ORE1	.67	*	0.89	0.84	0.63	4.39	1.71	5.08	1.82
	ORE2	.88	7.18						4.24	2.09
	ORE3	.89	7.26						4.50	2.06
	ORE4	.79	6.58						4.33	2.08
	ORE5	.73	6.17						3.78	2.20
Organisational capabilities	OCA1	.81	*	0.85	0.80	0.53	5.40	1.25	5.15	1.77
	OCA2	.80	8.27						5.54	1.64
	OCA3	.65	6.32						5.67	1.48
	OCA5	.70	6.91						5.28	1.64
	OCA6	.69	6.86						5.35	1.38
Environmental orientation	ENO1	.76	*	0.92	0.89	0.54	4.97	1.35	4.91	1.79
	ENO2	.76	7.53						4.99	1.73
	ENO3	.85	8.67						4.86	1.67
	ENO4	.83	8.39						4.92	1.81
	ENO5	.89	9.16						5.11	1.62
	ENO6	.75	7.47						5.36	1.64
	ENO7	.56	5.38						4.59	2.06
	ENO8	.67	6.57						5.31	1.74
	ENO9	.56	5.36						4.35	1.93
	ENO10	.65	6.27						5.31	1.77

* Item fixed to set the scale

Fit statistics:

Chi-square (χ^2) = 488.51, p = .000; df = 340; Ratio Chi-square to d.f. (χ^2/df) = 1.44;

Normed Fit Index (NFI) = .91; Non-Normed Fit Index (NNFI) = .97; Comparative Fit Index (CFI) = .97;

Root Mean Squared Error of Approximation (RMSEA) = .065; 90% Confidence Interval of RMSEA = (.052, .078)

Appendix 4: Measurement model II - Summary of construct measurement

Constructs	Scale items	Standardised loadings	t-value	α	ρ	AVE	Mean score	Stand. deviation	Items means	Items s.d.
Eco-friendly company strategy	ECS1	.74	*	0.90	0.86	0.57	4.97	1.39	4.87	1.85
	ECS2	.65	5.94						5.06	1.76
	ECS3	.77	7.11						4.99	1.71
	ECS4	.74	6.82						5.25	1.61
	ECS5	.82	7.67						4.22	1.90
	ECS6	.76	7.06						5.17	1.72
	ECS7	.78	7.23						5.21	1.74
Eco-friendly marketing strategy	EMS1	.85	*	0.88	0.82	0.59	4.28	1.66	4.39	2.22
	EMS2	.77	8.29						4.09	2.02
	EMS3	.84	9.45						4.17	1.94
	EMS4	.73	7.68						4.20	2.05
	EMS6	.66	6.75						4.55	1.91
Competitive advantage	CAD1	.67	*	0.89	0.84	0.58	4.34	1.55	4.56	2.00
	CAD2	.74	6.09						3.94	1.96
	CAD3	.79	6.44						4.19	1.87
	CAD4	.78	6.40						4.49	1.83
	CAD5	.79	6.49						4.26	2.02
	CAD6	.80	6.55						4.58	1.91
Market performance	MAP1	.82	*	0.87	0.81	0.65	6.04	1.02	6.09	1.19
	MAP2	.85	8.72						6.09	1.06
	MAP3	.78	7.88						5.84	1.42
	MAP4	.77	7.75						6.16	1.11
Financial performance	FIP1	.64	*	0.90	0.86	0.58	4.85	1.22	4.87	1.70
	FIP2	.93	6.99						4.91	1.52
	FIP3	.84	6.52						4.69	1.57
	FIP4	.78	6.17						4.76	1.50
	FIP5	.81	6.39						5.14	1.32
	FIP6	.68	5.51						5.15	1.35
	FIP7	.62	5.13						4.42	1.80

* Item fixed to set the scale

Fit statistics:

Chi-square (χ^2) = 558.20, p = .005; df = 474; Ratio Chi-square to d.f. (χ^2/df) = 1.18;

Normed Fit Index (NFI) = .89; Non-Normed Fit Index (NNFI) = .98; Comparative Fit Index (CFI) = .98;

Root Mean Squared Error of Approximation (RMSEA) = .042; 90% Confidence Interval of RMSEA = (.025, .055)

Appendix 5: Results of the structural model

Hypothesis	Hypothesised association	Standardised path coefficient	t-value	p-value	Status
H ₁	Regulatory framework → Environmental orientation	.07	0.88	.38	Rejected
H ₂	Public concern → Environmental orientation	.15	1.95	.05	Accepted
H ₃	Organisational resources → Environmental orientation	.54	4.76	.00	Accepted
H ₄	Organisational capabilities → Environmental orientation	.62	5.82	.00	Accepted
H _{5a}	Environmental orientation → Eco-friendly corporate strategy	.84	5.86	.00	Accepted
H _{5b}	Environmental orientation → Eco-friendly marketing strategy	.63	5.21	.00	Accepted
H ₆	Eco-friendly corporate strategy → Competitive advantage	.57	4.11	.00	Accepted
H ₇	Eco-friendly marketing strategy → Competitive advantage	.32	2.86	.00	Accepted
H _{8a}	Competitive advantage → Market performance	.19	1.64	.10	Accepted
H _{8b}	Competitive advantage → Financial performance	.17	1.50	.13	Rejected

Fit statistics:

Chi-square (χ^2) = 2314.27, p = .000; df = 1529; Ratio Chi-square to d.f. (χ^2/df) = 1.51;

Normed Fit Index (NFI) = .88; Non-Normed Fit Index (NNFI) = .95; Comparative Fit Index (CFI) = .95;

Root Mean Squared Error of Approximation (RMSEA) = .071; 90% Confidence Interval of RMSEA = (.065, .076).