

The Effects of Market Orientation on Environmental Social Responsibility Programmes: The Moderating Effects of Institutional Pressures

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ABSTRACT

Using market orientation perspective, this study addresses the effects of customer- and competitor orientations on environmental social responsibility (ESR) programmes. This study also examines under what conditions these orientations engender greater or lesser uptake on ESR programmes. This study examines whether the adoptions of ESR programmes determine the level of organisational performance. The results from a large-scale, cross-industry study show that being responsive towards customers and competitors leads organisations to adopt ESR programmes. Results also indicate that governmental pressures serve as a moderator on these relationships. In addition, the adoption of ESR programmes in newly developed products enhances an organisation's reputation, although they have no direct influence on enhancing organisational performance from the financial perspective.

Keywords: Environmental social responsibility (ESR), institutional pressures, firm performance, organisational responsiveness

INTRODUCTION

Since the late 1980s, awareness of global warming has increased. Following the Kyoto Protocol in 1997, a commitment was made to create a cleaner and greener world. The ratification, which took effect in February 2005, was signed by more than 55 countries that, together, produce 55% of the world's greenhouse gas (GHG) emissions (Boiral, 2006). In addition to governmental commitment and support, for-

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profit organisations, such as producers, play a critical role in producing and distributing products which are eco-friendly. In support of this, Porter and van der Linde (1995) had claimed that the adoption of eco-friendly operations and products increased an organisation's competitive advantage.

Although many companies are aware of, and care about, global warming, in reality many companies remain hesitant and reluctant to adopt *environmental social responsibility* (ESR) programmes (Siegel, 2009). There are many reasons behind their decision, but most of them believe that implementing the programmes will not be matched by the benefits that they might accrue (Boiral, 2006). This belief might have been true in the 1990s, but, a decade after the millennium, surveys indicated that more than 20% of consumers around the world (the percentage being even higher for consumers in developed countries) did care about global warming and had a greater willingness to purchase eco-friendly products (Ambec & Lanoie, 2008; Marakanon & Panjakajornsak, 2016). If this fact is not convincing enough, the success of Toyota's Prius or Clorox's Brita (Unruh & Ettenson, 2010) in popularising eco-friendly products could be the trigger for organisations to adopt and implement ESR programmes.

The question is what are the factors that determine organisational adoption of ESR programmes? Using a market orientation perspective (Kohli & Jaworski, 1990; Narver & Slater, 1990), this study argues organisational norms and beliefs shape an

integrated organisational effort to respond efficiently and effectively to customers and competitors to ensure the adoption of ESR programs.

The awareness and adoption of ESR programmes among organisations vary, with those in developed countries have a rating generally higher than developing or undeveloped countries. The second question is under what conditions are the influence of market orientation on the adoption of ESR programs strengthened or weakened? Based on institutional theory (DiMaggio & Powell, 1983), this study argues that coercive power serves as the moderator that strengthens the effect of market orientation on ESR programmes. Specifically, this study argues that stronger environmental regulations by the government (Ignatius, 2009) or social pressures from non-governmental organisations (NGOs) devoted to preserving the environment (Peng & Lin, 2008) create conditions that foster more or less adoption of ESR programmes.

Although Porter and van der Linde (1995) had argued that ESR programmes increased an organisation's competitive advantage, many companies hesitate to adopt them due to their insignificant impact on performance (Siegel, 2009). Some studies had conceptually and empirically reported that the adoption of ESR programs influence organisational performance, although the effects are marginal (Montabon, Sroufe, & Narasimhan, 2007). One of the reasons is because previous studies have mainly focused on financial performance e.g. Eiadat, Kelly, Roche and Eyadat (2008);

King and Lenox (2001). This study extends the research by looking at areas where organisational performance should be seen from financial and non-financial perspective.

LITERATURE REVIEW

Market Orientation

Market orientation refers to the extent to which firms behave, or are inclined to behave, according to the concept of marketing (Kohli & Jaworski, 1990). Homburg and Pflesser (2000) stated that market orientation has been conceptualised from both behavioral and cultural perspectives. The behavioral perspective focuses on organisational activities related to the generation and dissemination of and responsiveness to market intelligence e.g. Kohli and Jaworski (1990). The cultural perspective focuses on norms and values of the organisation that encourage behaviours which are considered consistent with market orientation (Deshpandé, Farley, & Webster, 1993; Narver & Slater, 1990). This study adopts the behavioral perspective and asserts the argument of Hult, Ketchen and Slater (2005) that cultural elements per se cannot be expected to shape ESR programs or organisational performance directly. Specifically, customers do not purchase a firm's goods and services simply because the firm has a market orientation culture. Instead, market orientation encourages organisations to act on the knowledge developed about customers' needs or competitors' actions.

In order to depict behavioural market orientation, this study adopts the perspective of Kohli, Jaworski and Kumar (1993) – *responsiveness* - as a firm's propensity to act based on knowledge gained in the market. Specifically, this study defines *customer-related responsiveness* as the extent to which an organisation responds quickly to customer-related changes, while *competitor-related responsiveness* refers to the extent to which an organisation responds quickly to competitor-related changes (Homburg, Grozdanovic, & Klarmann, 2007).

Environmental Social Responsibility (ESR) Programs

Environmental Social Responsibility (ESR) programmes refer to organisations engaging in activities for doing well with regard to the environment, beyond the interests of the organisation and/or that which is required by law (McWilliams & Siegel, 2001). According to Bagnoli and Watts (2003), an organisation was considered as adopting ESR programmes if it implemented activities to save the environment in its value chain system. In a comprehensive content analysis, Montabon et al. (2007) proposed six main activities related to ESR programmes: recycling, waste reduction, remanufacturing, eco-friendly production, eco-friendly product design and eco-innovative products.

This study supports the views of Porter and van der Linde (1995) that, basically, ESR programmes are related to organisational operations and developing innovative products and consist of any organisational

activities to save the environment, such as the 3R (reduce, reuse recycle) and the usage of renewable energy, among others. The ESR programmes related to new products refer to the organisational activities within the product development process which adopt a “green” orientation, such as eco-friendly product design (Eiadat et al., 2008) among others.

Institutional Pressures

Institutional theory (DiMaggio & Powell, 1983) posits that organisations compete not just for resources and customers, but also for political power and institutional legitimacy. Further, the isomorphism concept implies that coercive isomorphism results from both formal and informal pressures exerted on organisations by other organisations upon which they are dependent and by cultural expectations in the society within which organisations function (Peng & Lin, 2008). The formal pressures are enacted by the government through environmental regulations and legal restrictions that mitigate the adverse effects of pollution (Berry & Rondinelli, 1998). The informal pressures coming from customer, shareholder, neighbourhood and environmental protection groups usually attempt to replace government efforts and utilise public opinion to force business adoption of environmental management (Berry & Rondinelli, 1998; Hart, 1995; Henriques & Sadorsky, 1999). This study identified the latter pressures as social pressures, while the former are governmental pressures.

Organisational Performance

Prior researches mostly applied financial performance as the consequence of the adoption of ESR programmes e.g. Eiadat et al. (2008); Montabon et al. (2007). It is claimed that the direct effect of programmes occurs because of the cost reduction related with operations e.g. Ambec and Lanoie (2008); Porter and van der Linde (1995), to allow the organisation to improve financial performance. Nevertheless, there is another point of view that performance is related to non-financial measurements. Peng and Lin (2008) opined that organisations engaged in ESR programmes were able to develop the good image of their business and created a much better customer satisfaction. Therefore, there is a possibility that business reputation will be improved. Good reputations provide the rationale for a cross-sectional relationship between reputation and financial performance (Fombrun, 1996). In other words, good reputation may allow the organisation to charge premium prices, attracting more skilled applicants, enhancing their access to capital markets and attracting investors (Fombrun & Shanley, 1990). Based on these, this research uses the term organisational performance based on managers’ perceptions (Eiadat et al., 2008) of their firms’ financial and non-financial performance.

Hypotheses Development

Responsiveness to customer-related changes helps firms to satisfy customers better and, thus, it is more likely to lead to a differentiation advantage (Zhou et al., 2007).

As argued by Peattie (1999), customers were concerned more about environmental issues rather than conventional functionality, quality and cost relating to how products were made, how long they lasted and how they could be disposed of. Consequently, firms need to adopt and implement ESR programmes in their operations as well as in developing new products. As shown by Ambec and Lanoie (2008), more than 20% of consumers around the world were concerned about and deliberately consume “green” products. For example, the market for organic cotton (produced without chemical fertilisers or pesticides) soared worldwide, from US\$245 million in 2001 to an estimated US\$1 billion in 2006. Without taking account of this in operations or developing innovative eco-friendly products, firms are hardly in a position to sustain their competitive advantage (Nidumolu, Prahalad, & Rangaswami, 2009).

Responsiveness to competitor-related changes helps firms to watch costs closely, so they may quickly match the marketing initiatives of competitors (Zhou et al., 2007). As reported by Unruh and Ettenson (2010), a recent IBM survey indicated that two-thirds of executives see ESR - sustainability - programmes as a revenue driver, and half of them expect green initiatives to confer a competitive advantage. If a majority of firms believe that ESR programmes are the most promising avenue (Nidumolu et al., 2009), then every single firm might adopt and implement ESR programmes, particularly when the firms are competitor-orientated.

The trend was even more obvious when the launching of eco-friendly products increased to 500% from 2007 to 2009 (Unruh & Ettenson, 2010), which further indicates that firms respond to their competitors’ initiatives to launch green products. Therefore:

H₁: Responsiveness to customer-related changes positively influences ESR programmes within (a) operational areas and (b) development of new products.

H₂: Responsiveness to competitor-related changes positively influences ESR programmes within (a) operational areas and (b) development of new products.

Henriques and Sadorsky (1999) indicated that a firm’s formulation of its environmental plan is positively influenced by government regulatory pressures and community group pressures. The results of Peng and Lin (2008) also indicated that greater local pressures increase the adoption of a subsidiary’s green management initiatives. Interestingly, the results of Clemens and Douglas (2006) indicated that formal pressures from the government are non-existent when the firm has superior internal resources.

Based on that, this study argues that institutional pressures, both formal (government) and informal (social) pressures, serve as moderating variables on the relationship between organisation’s responsiveness toward ESR programmes. The formal pressures from environmental

regulations create a context where a firm will be more engaged in ESR programmes (Eiadat et al., 2008). Hunt and Auster (1990) also argued that coercive pressures from the government cause more environmental-friendly firms to apply pressure on all firms in an industry. Consequently, greater formal pressures could strengthen the positive influence of firms' responsiveness towards customers and competitors regarding ESR programs. Moreover, Berry and Rondinelli (1998), and Fineman and Clarke (1996) argued that stakeholder (social) pressures created enough forces for firms to adopt and implement ESR programs. Specifically, the willingness to implement ESR programmes will be greater for firms which are more responsive towards customers or competitors if they perceive that the social pressures are more than less. Therefore:

H₃: The positive influence of organisational responsiveness related to (a) customers and (b) competitors on ESR programs will be strengthened if the firm experiences more than less social pressures.

H₄: The positive influence of organisational responsiveness related to (a) customers and (b) competitors on ESR programmes will be strengthened when the firm experiences more than less governmental pressures.

As argued by Porter and van der Linde (1995), ESR programmes enhance the competitiveness of the firm because of better usage of inputs and better product

creation yields improvement through innovation initiatives. Consequently, ESR programmes enable firms to improve performance, as reported by Russo and Fouts (1997). According to Montabon et al. (2007), the practices of environmental management increase sales growth of "green" products, as reported by Eiadat et al. (2008). According to Ambec and Lanoie (2008), better financial performance results in cost reduction, whereby ESR programmes enable firms to manage inputs better and attain a zero-waste production process. Moreover, ESR programmes enabled firms to have more opportunities to increase their revenue through better access to certain markets and differentiating products in the market, where, nowadays, one-fifth of consumers prefer to consume eco-friendly products.

In addition to improved financial performance, ESR programmes also enhance the reputation of the firm (Lynes & Andrachuk, 2008) and attract substantial numbers of eco-consumers to purchase their products (Baron, 2001). The review paper of Ambec and Lanoie (2008) also indicated that ESR programmes provided firms with better environmental (reputation) performance (Kolk, 2000). As reported by Unruh and Ettenson (2010), making the bold move to develop hybrid technology in automobiles had enhanced the reputation of Toyota as a "green" company, although the first hybrid car was, in fact, the Honda Insight. As a result, Toyota has been able to extend its hybrid platform into other

models and easily outsell other companies. Therefore:

H₅: ESR programmes related to firm's operations positively influence (a) financial and (b) non-financial performance.

H₆: ESR programmes related to new products positively influence (a) financial and (b) non-financial performance.

MATERIALS AND METHODS

Research Design and Construct Measurements

The measurement items for organisational responsiveness (both customer- and competitor-related responsiveness have four items) were adopted from Deshpandé et al. (1993), Kohli et al. (1993), and Homburg et al. (2007). This research construct was tested using a 5-point Likert scale, in which 1 refers to strongly disagree, and 5 refers to strongly agree. The measurement items for ESR programs were developed based on the study

of Ambec and Lanoie (2008), Montabon et al. (2007), Peng and Lin (2008), and Siegel (2009) - six items for ESR programmes in operations and four items for ESR programs in new products. The measurement items of firm performance (both financial or non-financial performance have four items) were adopted from Eiadat et al. (2008), and Homburg and Pflesser (2000). Constructs of this study were tested using a 7-point Likert scale, where scale 1 means strongly disagree and scale 7 represents strongly agree. Finally, the measurement items for institutional pressures were developed based on study by Boiral (2006); Peng and Lin (2008); Sharma and Henriques (2005), - four items for social pressures and five items for governmental pressures. The institutional pressures were tested by using a 6-point Likert scale, in which 1 refers to strongly disagree, and 6 refers to strongly agree. Double translation method was used to translate all questionnaires with the aim to maximise functional and conceptual equivalence during the translation process. All the items used in the research are shown

Table 1
Research items, factor loadings, and composite reliability

Research Variables	Factor Loadings	Composite Reliability
I. Organisational Responsiveness - Deshpandé, Farley and Webster (1993); Homburg, Grozdanovic and Klarmann (2007); Kohli, Jaworski and Kumar (1993)		
<i>A. Customer-related responsiveness</i>		0.756
- We provide quick response if something important happens to our customers.	0.780	
- We do quick implementation according to our planned activities regarding customers.	0.822	
- If our customer-related activities do not lead to the desired outcomes, we are able to change them fast.	0.860	
- We are able to react fast to fundamental changes regarding customers.	0.839	

Table 1 (continue)

Research Variables	Factor Loadings	Composite Reliability
<i>B. Competitor-related responsiveness</i>		0.774
- We are able to quickly respond if something important happens regarding our competitors.	0.787	
- We implement our planned activities quickly regarding our competitors.	0.866	
- If our competitor-related activities do not lead to the desired effects, we are fast at changing them.	0.857	
- We quickly react to fundamental changes with regards to our competitors.	0.818	
II. ESR Programmes – Ambec and Lanoie (2008); Montabon, Sroufe and Narasimhan (2007); Peng and Lin (2008), and Siegel (2009)		
<i>A. ESR programmes in operations</i>		0.661
- We actively implement a waste reduction program.	0.682	
- We have processing facility that is able to minimise waste hazard up to zero percent.	0.687	
- We always use materials that are reusable.	0.687	
- We actively implement a recycling programme.	0.689	
- All the production and administration facility in our company has been designed to use renewable energy.	0.713	
- The usage of hazardous materials in our production system has been reduced significantly during these years.	0.746	
<i>B. ESR programmes in new product</i>		0.633
- In developing new products, our R&D team is based on life-cycle products.	0.714	
- Our new products always consider the minimum usage of energy.	0.826	
- The design of our new products is eco-friendly.	0.737	
- The package of our new products is based on the zero-waste concept.	0.715	
III. Firm Performance – Eiadat et al. (2008); Homburg and Pflesser (2000)		
<i>A. Financial performance</i>		0.889
- In the last two years, relative to our competitors, our company's market share has increased.	0.898	
- Our sales have increased in the last two years.	0.947	
- Our profit has increased in the last two years.	0.911	
- Our productivity has increased in the last two years.	0.916	
<i>B. Non-financial performance</i>		0.743
- The satisfaction of our customers has increased in the last two years.	0.773	
- In the last two years, our reputation has increased.	0.835	
- In the last two years, relative to our competitors, our reputation as a green company has increased.	0.838	
- Our company is known as a green company.	0.845	

Table 1 (continue)

Research Variables	Factor Loadings	Composite Reliability
IV. Institutional Pressures – Boiral (2006); Peng and Lin (2008), and Sharma and Henriques (2005)		
<i>A. Social pressures</i>		0.851
- Environmental organisations always suspect that our activities do not fulfil the environmental regulations.	0.878	
- Our activities have been monitored by environmental organisation to be eco-friendly.	0.898	
- The society around our production facility always criticises us to follow the environmental regulations.	0.938	
- Many complaints from the society about our activities that might endanger the environment.	0.847	
<i>B. Governmental pressures</i>		0.722
- The government has comprehensive and executable environmental regulations.	0.747	
- The implementation of environmental regulations by the government agencies is strictly implemented.	0.821	
- <i>Our company is often criticized by the government agencies with regards to our activities that endanger the environment.</i>	0.423	
- The government has an executable penalty if our company endangers the environment.	0.707	
- <i>Most of our activities have been targeted by the implementation of environmental regulations.</i>	0.496	

χ^2 (df) = 748.955 (467); p = 0.080; CFI (RMSEA) = 0.855 (0.078)

in Table 1.

According to Feldman and Lynch (1988), respondents may use the same answers used in previous survey questions. Therefore, to decrease the effect of self-generated validity, this study followed the same procedure as Podsakoff, MacKenzie, Lee and Podsakoff (2003) by utilising *counterbalancing question order*, with the survey questions not arranged sequentially. Furthermore, this research *proximally separated the measures* by having respondents to complete the measurement of the predictor and criteria variables in different formats of response (i.e., 5-point,

6-point, and 7-point Likert scales).

Sampling plan

A survey questionnaire via mail was distributed to 329 companies in three industrial parks around Surabaya, Indonesia. As the second biggest city and the acknowledged business centre for the East Indonesian region, Surabaya has a leading position. To support this position, the government has set up a number of industrial areas, which are located in urban areas surrounding Surabaya. This study targeted organisations operating in three cities, Surabaya (209 firms), Gresik (80

firms), and Pasuruan (40 firms).

The survey was conducted between mid-August to mid-October 2010, and targeted 102 companies. Thus, the response rate was 31%. The following are the basic attributes of respondents and firms. Most of the companies were in the manufacturing industry (48%), followed by trading and warehousing services (40%), and the rest in miscellaneous industries. Almost 88% of the companies had been established for more than 10 years, and most had yearly sales of more than US\$12 million (49%). Approximately 70% of the firms had fewer than 1,000 employees, and the rest had more than 2,000. Most of the companies (61%) have certifications related to the environment (i.e., ISO 14000, Eco-Labeling, EN 16000, and SA8000), with 24% of the leaders showing a greater commitment to their environmental programs. The majority of the respondents were male (77%), more than 30 years of age (77%), have a bachelor's degree (73%), working experiences of more than 6 years (77%), a position equal to or higher than middle manager (77%), and long tenure in their current position (54%).

RESULTS AND DISCUSSION

Reliability and Validity of Measurement Constructs

The guidelines in Anderson and Gerbing (1988) were used to assess the validity of the construct. First, the exploratory factor analysis for all items turned out to be factor solutions, as theoretically expected. The

composite reliability Cronbach's α for each coefficient was greater than 0.700. Secondly, we used Confirmatory Factor Analyses (CFA) to assess the convergent validity of the measures. Most of the item loadings exceeded 0.600 and each indicator t-value exceeded 10 ($p < .001$) and, thus, satisfied the CFA criteria (Hair, Black, Babin, Anderson, & Tatham, 2010). Two items were discarded (item 3 and 5 of governmental pressures) due to low factor loading and item-to-total correlation. The overall fit support the measurement model, and the χ^2 fit statistic is 748.955 with 467 degrees of freedom, and the p -value 0.080. The root mean squared error (RMSEA) was 0.078, and the comparative fit index (CFI) was 0.855. All these figures support the overall measurement quality given a particular sample and number of indicators (Gerbing & Anderson, 1992), and the measures thus, displayed adequate construct validity and reliability. The results are shown in Table 1.

To assess the potential impact of common method bias on the present research, there are three steps implemented to test out the discriminant validity. First, a Harman one-factor test by Podsakoff and Organ (1986) is conducted, which loaded all the variables into a principal component factor analysis. It turns out that there is no single dominant factor (seven factors are generated with 77.600% of the total variance, and factor 1 is only 23.876% of the variance). Second, the variance-extracted percentages for any

two factors are compared with the square of the correlation estimate between them (Fornell & Larcker, 1981). This shows that each of the variance-extracted estimates is greater than the corresponding interfactor squared correlation estimates. Finally, the χ^2 -difference test is implemented for each pair of factors having correlation values above 0.500 (three cases) by using the common method factor. All cases resulted in a significant difference, which further indicated that the pairs are not collinear (Anderson & Gerbing, 1988). Therefore, discriminant validity among the research constructs is confirmed.

This study employs multiple regressions to test the hypotheses. The first hypothesis posits that customer-related responsiveness significantly influences the adoption of ESR programmes by companies. The regression results indicate that being responsive to customers significantly influences the company's adoption of ESR programmes in operations ($\beta = 0.227$, $p = 0.050$; M1) and new products ($\beta = 0.353$, $p = 0.003$; M4); thus, H₁ is supported. The second hypothesis predicts that competitor-related responsiveness significantly influences the adoption of ESR programs by companies. The results show that being responsive to customers significantly influences the company's adoption of ESR programs in operations ($\beta = 0.237$, $p = 0.041$; M1), while there is no effect on ESR programs in new products ($\beta = 0.021$, $p = 0.859$; M4). Therefore, H₂ is partially supported.

In order to test the moderating effects as proposed in H₃ and H₄, this research used a hierarchical regression, since continuous variables are used to measure the predictor (team unlearning) and moderators (team conflict – task and affective conflict). The use of a regression can retain the continuous nature of the variables without losing information or reducing the power to detect the interaction effects e.g. Aiken and West (1991). However, Frazier, Tix and Barron (2004) went on to say that it might be possible that variables correlated with each other (high multi-collinearity), and, thus, the centring method is applied in this research to reduce these effects. Furthermore, based on previous research e.g. Homburg et al. (2007); Sharma and Henriques (2005), this research adopted seven control variables for the regression equations, which are: 1) establishment, 2) type of industry, 3) employees, 4) sales, 5) certification, 6) leadership commitment and 7) competition intensity.

The results presented in Table 3 show that social ($\beta = 0.235$, $p = 0.021$; M2) and governmental pressures ($\beta = 0.329$, $p = 0.000$; M3) have a significant effect on ESR programs related to operations. However, there are no significant effects of social ($\beta = -0.038$, $p = 0.725$; M5) and governmental pressures ($\beta = 0.050$, $p = 0.615$; M6) on ESR programmes related to new products. The expected moderating effect of social pressures on the relationship between customer- and

competitor-related responsiveness on ESR programs in operations ($\Delta R^2 = 0.030$, $\Delta F = 1.796$, $p = 0.172$) and new products ($\Delta R^2 = 0.008$, $\Delta F = 0.426$, $p = 0.655$) is not revealed; thus, H_3 is not supported. The expected moderating effect of governmental pressures only revealed significantly the relationship between competitor-related responsiveness and ESR programmes in operations ($\beta = 0.228$, $p = 0.031$; M3). Further results indicate the moderating effect of governmental pressures is significantly on the relationship between customer-related responsiveness and ESR programmes in new products ($\beta = 0.229$, $p = 0.047$; M6). Therefore, H_4 is partially supported.

The fifth hypothesis states that the implementation of ESR programs in operations significantly influences firm performance. The results indicate that there is no significant effect of such programmes

on the firm's financial ($\beta = -0.006$, $p = 0.965$; M7) and non-financial performance ($\beta = 0.138$, $p = 0.238$; M8); thus, H_5 is not supported. Finally, the sixth hypothesis argues that the adoption of ESR programs in new products will positively influence firm performance. The results show that there is no significant expected effect on financial performance ($\beta = 0.091$, $p = 0.471$; M7), but the programmes significantly influence non-financial performance ($\beta = 0.291$, $p = 0.014$; M8). Therefore, H_6 is partially supported.

Following the procedure of Aiken and West (1991), and Cohen, West, and Aiken (2003), Figure 1 shows the moderating effect of governmental pressures that, when the company has greater responsiveness with regard to competitors, increased governmental pressures boosts adoption of ESR programmes in operations ($\bar{Y} = 5.499$) and vice versa ($\bar{Y} = 4.315$). In the

Table 2
Multiple regression analyses

Independent Variables	Dependent Variables							
	ESR Programmes						Firm Performance	
	Operations		New Product				Financial	Non-Financial
	M1	M2	M3	M4	M5	M6	M7	M8
<i>Control variables</i>								
Type of industry	0.023	0.019	0.021	0.121	0.119	0.115	-0.097	-0.043
Establishment	0.012	0.011	0.010	0.051	0.050	0.047	0.049	0.113
Sales	0.099	0.101	0.097	-0.001	-0.001	-0.001	-0.005	0.009
Employees	-0.031	-0.027	-0.028	-0.108	-0.104	-0.109	0.051	0.035
Leadership commitment	-0.145	-0.137	-0.133	-0.143	-0.141	-0.139	-0.078	-0.136
Certification	0.063	0.064	0.061	0.123	0.121	0.120	-0.006	0.087
Competition intensity	0.145	0.141	0.139	0.000	0.000	0.000	0.123	0.110

Table 2 (continue)

Independent Variables	Dependent Variables							
	ESR Programmes						Firm Performance	
	Operations			New Product			Financial	Non-Financial
	M1	M2	M3	M4	M5	M6	M7	M8
<i>Main effects</i>								
Customer-related responsiveness (CuR)	0.227*	0.286*	0.196 ⁺	0.353**	0.303*	0.357**		
Competitor-related responsiveness (CoR)	0.237*	0.277*	0.210 ⁺	0.021	0.028	-0.005		
Social pressures (SP)		0.235*			-0.038			
Governmental pressures (GP)			0.329*			0.050		
ESR programmes in operations							-0.006	0.138
ESR programmes in new product							0.091	0.291*
<i>Interaction effects</i>								
CuR x SP		0.062			0.116			
CoR x SP		0.137			-0.084			
CuR x GP			-0.001			0.229*		
CoR x GP			0.228*			-0.094		
ΔR^2	0.071	0.222	0.252	0.063	0.136	0.134	0.081	0.078
ΔR^2	0.170	0.030	0.050	0.133	0.008	0.038	0.008	0.151
ΔF	9.603	1.796	3.258	7.138	0.426	2.063	0.372	8.520
<i>Sig.</i>	0.001	0.172	0.043	0.001	0.655	0.133	0.691	0.001

Note: ⁺ represents $p < 0.10$; * represents $p < 0.05$; ** represents $p < 0.01$

case of companies with less responsiveness, there is a slight difference between high versus low governmental pressures ($\bar{Y} = 4.369$ vs. $\bar{Y} = 4.556$). Figure 2 shows higher governmental pressures increase the tendency for companies to adopt ESR programmes in their new products from

$\bar{Y} = 5.049$ to $\bar{Y} = 5.603$ when they are more responsive toward their customers. Interestingly, when the company is less responsive, the level of ESR adoptions in new products is higher when the companies perceive low ($\bar{Y} = 4.830$) than high ($\bar{Y} = 4.465$) governmental pressures.

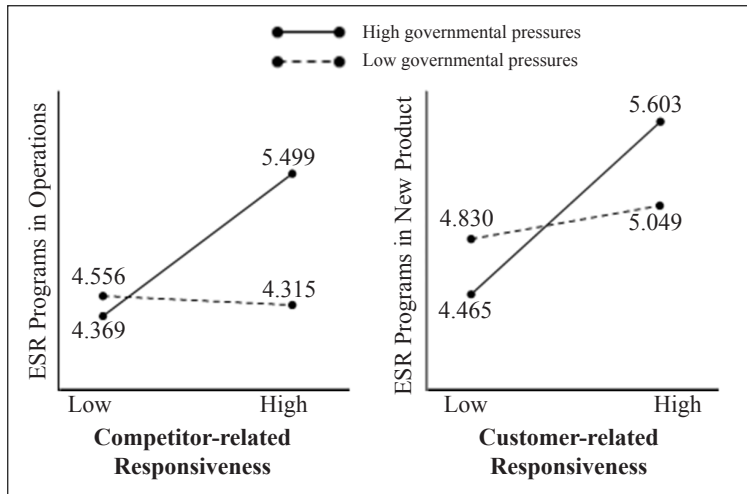


Figure 1. The moderating effect of governmental pressures

CONCLUSION

This study addressed the research question as to whether customer and competitor orientations determine the adoption level of ESR programmes. The findings indicate that the adoption of ESR programmes in operations is determined by these orientations, while programmes related to new products are only determined by customer orientation. The findings are consistent with the arguments that indicate responsiveness towards customers leads firms to adopt and implement environmental-friendly operations. Moreover, due to the rapid growth in the number of “green” consumers (Ambec & Lanoie, 2008; Unruh & Ettenson, 2010), developing innovative products is the only way to attract and retain such consumers. Moreover, competitor orientation leads firms to employ mimetic isomorphism (DiMaggio & Powell, 1983) by adopting any ESR programs of their competitors. As a result, more and more

firms will adopt ESR programs, particularly when the world’s biggest companies, such as GE, Wal-Mart, or Toyota, serve as role models as eco-friendly firms, particularly in their operations (Unruh & Ettenson, 2010).

The second research question is under what conditions the positive influence of organisational market orientation on the adoption of ESR programs are strengthened. The findings show that governmental pressure could strengthen the effect of competitor-related orientation on ESR programs related to operations, while the effect of customer-related orientation on ESR programs related to new products is also strengthened. Consistent with Clements and Douglas (2006), governmental pressures have a direct and indirect effect on the adoption of ESR programmes. Although there is no significant moderating effect of social pressures on the influence of firms’ responsiveness, the findings are in line with those of Kassinis and Vafeas (2006), and

Peng and Lin (2007), that social pressures directly influence the firms to adopt ESR programs.

The third research question addressed by this study is whether the adoption of ESR programs contributes to organisational performance. The findings indicate that there is no significant contribution of adopting such programmes on financial performance, while non-financial performance (reputation) is indeed significantly enhanced by such programmes in new product development. As argued by Nidumolu et al. (2009), firms need to use sustainability (ESR programs) as part of their innovation programmes. By doing so, consumers and other stakeholders will regard the firm highly as eco-friendly, which, in the long run, could benefit its sales and financial performance (Unruh & Ettenson, 2010). In line with many pessimistic views about ESR programmes which point to costs rather than revenues (Ambec & Lanoie, 2008; Boiral, 2006), this study argues that ESR programs might not have an immediate effect after firms implement them. In the short term, the effect will be effective in enhancing a company's reputation, which will gradually lead to increasing the firms' revenues and financial performance.

Implications

This study shows implications for practitioners as well as academics. First, as suggested by Marcus and Fremeth (2009), ESR programmes could contribute to the firms' financial performance when they have green management competencies,

which allow firms to synergise their complementary and specialised capabilities. Second, a good reputation as a consequence of ESR programmes indicates to customers and suppliers that the firms produce and deliver high quality products (Peng & Lin, 2008) and thus, positively correlated to the firms' financial performance (Fombrun, 1996). In this case, the effect on the firm's financial performance may take time, such as in the case of Toyota's Prius or Clorox's Brita (Unruh & Ettenson, 2010).

In addition to these managerial implications, this study has several theoretical ones. First, it employs a market orientation perspective (Kohli & Jaworski, 1990; Narver & Slater, 1990) to investigate how firms adopt and implement ESR programmes. The study argues that the adoption of ESR programmes by the firms is part of their responsiveness toward customers and competitors. Second, this study extends institutional theory (DiMaggio & Powell, 1983), which states institutional pressures positively influence the adoption of ESR programs. Moreover, this study indicates that greater governmental pressures positively moderate firms' responsiveness towards the adoption of ESR programmes. Third, this study employs a developing country as the context to conduct study-related ESR programs, whereas most prior studies used developed countries e.g. Clemens and Douglas (2006); King and Lenox (2001); Montabon et al. (2007), which are more stringent in the implementation of environmental regulations and there are greater pressures to be eco-friendly.

Limitations and Future Research Directions

Although these research results are compelling, their generalisations are constrained by several limitations of the study. First, this study used a market orientation perspective (Homburg et al., 2007; Hult et al., 2005) to investigate the factors that contribute to organisational decision to adopt ESR programmes. Integration with an internal perspective, such as the resource-based view (Barney, 1991) could provide a comprehensive perspective on how internal and external factors determine the adoption of ESR programmes. Second, the use of a newly-developed subjective measure for ESR programmes and institutional pressures should be noted. Although the reliability and validity of this new measurement are confirmed, future efforts to better craft this measure are warranted. Finally, the empirical setting is a developing country, which faces fewer pressures, whether governmental or social p (Nidumolu et al., 2009). This shortfall begs another related question that should be addressed, namely, to what extent or in what way do institutional or market conditions affect the adoption of ESR programmes?

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