

## Corporate Sustainability Practices and Organizational Economic Performance

Dr. Sajid Rahman Khattak\* Dr. Imran Saeed† Dr. Bilal Tariq‡



### Abstract

*Since last decade corporate sustainability has been of great interest to practitioners and researchers, both. Successful implementation of sustainability practices is vital for organizational survival and competitive advantage. Based on institutional theory, this study aims at to enhance understanding regarding the relationship of sustainability practices and corporate performance directly and indirectly through non-financial performance. Data from managerial level employees of manufacturing and services providing organizations of Pakistan was collected through a survey questionnaire. Based on 346 participants' responses we found that sustainability practices (exploration and exploitation) have significant relationship with financial and market performance. The multi-mediation analysis shows that all mediators partially mediate the relationship between sustainability practices and corporate performance. In the context of Pakistan, this study is the first of its kind to validate sustainability practices scale.*

### Key Words:

Sustainability Practices, Financial and Market Performance, Non-financial Performance, Multiple Mediation

### Introduction

For the last few decades practitioners and scholars have serious concerns regarding the role of businesses in society (Salzmann et al., 2005). Therefore, the relevant literature focuses sustainability practices in organization's business models with the aim to create sustainable organization by targeting social and environmental practices (Matos & Silvestre, 2013; Hart & Milstein, 2003). Several authors like Jonker and Karapetrovic (2004), and Van Marrewijk and Were (2003) also focused on the same idea, concluded that value creation and synergy is the main objective of every business. Rasi et. al. (2014) argued that

\* Assistant Professor, Institute of Business & Management Sciences, The University of Agriculture, Peshawar, KP, Pakistan.

† Lecturer, Institute of Business & Management Sciences, The University of Agriculture, Peshawar, KP, Pakistan. Email: [Imranktk1984@gmail.com](mailto:Imranktk1984@gmail.com)

‡ Assistant Professor, Department of Management Sciences, COMSAT, Vehari Campus, Vehari, Punjab, Pakistan.

stakeholders involvement in organization operations make them able to proactively respond environmental changes that will lead to improve environmental performance.

Previous studies link corporate sustainability (CS) with financial performance which is measured through CSR (Weber, 2008), sustainability performance (Wagner, 2010) as well as environmental performance (Koo et al., 2014). Wagner (2010) also highlighted that business can yield financial performance through incorporating sustainability practices. Although, some researchers like Schaltegger and Synnestvedt (2002) advocate against the phenomenon. However, this study links CS with financial performance as there is lack of empirical studies except Maletic et al., (2014a) validated CS practices that eventually affect organization economic performance. One possible question may arise that which CS practices organizations must adopt to improve their financial performance. Answer to this question is one should focus on organization vision whether their focus is on short-term financial gain through resource efficiency or their focus is on long-term sustainable gain through inspiring innovations and creativity.

Nowadays, researchers paid great attention to develop a comprehensive framework to define sustainability practices (Amini & Bienstock, 2014; Maletic et al., 2014a). Maletic et al., (2014a) conceptualizes two main practices i.e. First, that sustainability exploitation practices (SEI) as viewed as responsiveness, measurement, efficiency and enhancing prevailing sustainability capabilities. Applying such practices make an organization more effective and efficient in processes and output. The second one is sustainability exploration (SER) practices which deals with challenging prevailing sustainability solutions through creative and innovative concepts. In the view of sustainability related innovations, the focus of previous researches is to find the ways of managing product development in a sustainable way, and to find the relation of sustainability-oriented innovation and corporate performance.

The current research contributes to this evolving phenomenon in few ways. First, this is the first attempt (in the context of Pakistan) and generally second one to validate sustainability exploration and exploitation practices. Second, the current research gives important insights to the literature related to sustainability and financial performance relationship. Last but not the least, the link of sustainability and financial performance is enhanced through possible mediators.

## **Related Literature and Theoretical Perspective**

Nowadays business organization's view towards sustainability has changed from controlling pollution and waste to socio and eco-efficiency (Young & Tilley, 2006). By applying these concepts organization's gain economic benefits associated with social performance (maximizing positive social impact or

minimize the negative ones) and environmental performance (e.g. minimizing waste and reduce resource consumption). Previous studies highlight the links between social and environmental practices with financial or economic performance (e.g. Salzmann et al., 2005; Schaltegger & Wagner, 2006), however, the focus of researchers is on the question that whether it pays to be green and sustainable (Siegel, 2009; Marcus & Fremeth, 2009). Businesses introduce and practice sustainability not because of normative obligation but to satisfy all stakeholders that eventually impact on organization competitiveness and performance (Marcus & Fremeth, 2009).

Over the last decade literature explores and highlights the link of environmental and economic benefits (e.g. Wagner & Schaltegger, 2004). Koo et al., (2014) argued that organization's overall performance is affected through greening organizational operations like increase productivity, cost reduction, economic performance, creativity and innovation. Organizations can gain numerous competitive advantages allied with friendly environment management extending from improving internal processes to external sales and marketing benefits (Psomas et al., 2011). Through environmental management system organizations can gain three layered benefits: market benefits, environmental and social benefits (Prajogo et al., 2012). Wagner (2005) also found that environmental sustainability positively contributes towards competitive advantages and economic profitability.

Literature gives considerable attention to the relationship of sustainability performance and economic performance (i.e. Wagner, 2010). Chang and Kuo (2008) found that sustainability and profitability are positively interconnected. Weber (2008) also found significant relation between CSR practices and organization financial success. Likewise, followers of CSR argued that CSR practices have positive impact on economic bottom line and help organizations to gain competitive advantage, reduce risk and cost, create synergy and strengthen reputation (Carroll & Shabanaa 2010).

## **Methods**

### **Sampling and Data Collection**

The sample of the current research was managers of the manufacturing and services organizations operating in Pakistan. Data was gathered through structured questionnaire from the target respondents. The survey was sent in two waves in order to get a reasonable response rate. A total of 750 questionnaires were sent to the selected respondents. Out of which only 346 were received back with a response rate of 46%.

**Table 1. Respondents Profile**

Sample Distribution	Percentage
Top Management	29.5
Frontline Management	34.4
Middle Management	32.1
<b>Total</b>	<b>100 (N=346)</b>

### Measures

To measure sustainability exploration and sustainability exploitation, an instrument developed by Maletic et al., (2014a, 2014b, 2015) was used. This study is an attempt to validate sustainability exploration and sustainability exploitation instrument in Pakistani context. Sustainability exploration scale have two dimensions including SPPD (sustainable products and process development) and SOL (sustainability-oriented learning). Sustainability exploitation scale have three facets including stakeholder responsiveness and integration (SRI), stakeholder orientation for exploitation (SOE), and process management for exploitation (PME).

**Table 2. Reliability Estimates**

Sustainability Exploitation			Sustainability Exploration		
Construct	No. of Items	Cronbach's Alpha	Construct	No. of Items	Cronbach's Alpha
SOE	2	0.752	SPPD	4	0.785
SRI	2	0.732	SOL	4	0.826
PME	2	0.776			

The results of reliability analysis provide sufficient evidence regarding the instrument reliability. As depicted, the alpha values of all construct of sustainability exploitation and sustainability exploration is above .7 which confirm the instrument reliability. Thus, the instrument used in this study is reliable.

A four-item scale developed and used by previous researchers (Maletic, 2013; Maletic et al., 2015) was used to assess financial and market performance. To capture the best, the current research used four non-financial performance

measures as mediating variables. The alpha reliability values of all these variables were depicted in the following table.

**Table 3. Reliability Estimates**

Dependent Variable			Mediating Variables		
Construct	No. of Items	Cronbach's Alpha	Construct	No. of Items	Cronbach's Alpha
FMP	4	0.884	QP	4	0.785
			EP	4	0.826
			IP	3	0.771
			SP	3	0.713

The results of reliability analysis provide sufficient evidence regarding the instrument reliability. As depicted, the alpha values of financial and market performance (FMP) and mediating variables is above .7 which confirm the instrument reliability. Thus, the instrument used in this study is reliable.

After a good reliability values of all the constructs used in the study, we further applied various econometric tests to confirm the content, convergent and discriminant validity. As a good reliability value did not ensure that the scale is valid. So, for scale validation all the three types of validity analysis were conducted. Content validity was ensured through subject matter experts, instrument development experts and past literature as there is no statistical test available to test such validity (Hair et al., 2010). Factor analysis was applied to check convergent validity. Therefore, to know whether the measurement items converge into a theoretical construct, exploratory factor analysis (EFA) was carried out.

**Table 4. KMO and Bartlett's Test of Variables**

Construct	Sub-Construct	KMO	BTS
Sustainability Exploitation	SOE	0.600	Chi-Sq (154.68) P<.05
	SRI	0.756	Chi-Sq (142.10) P<.05
	PME	0.692	Chi-Sq (178.02) P<.05
Sustainability Exploration	SSPD	0.762	Chi-Sq (401.07) P<.05
	SOL	0.813	Chi-Sq (479.27) P<.05
Dependent Variable	FMP	0.774	Chi-Sq (800.21) P<.05
Mediating Variables	QP	0.793	Chi-Sq (492.93) P<.05
	IP	0.695	Chi-Sq (273.54) P<.05

	SP	0.622	Chi-Sq (229.58) P<.05
	EP	0.647	Chi-Sq (1292.5) P<.05

The sample of the current research is appropriate based on the KMO values of all the variables is above .50. Similarly, the value of BTS for all the variables is significant which indicate that we accept the alternate hypotheses. EFA was conducted to verify any cross-loading issues of the scale items. Based on statistical findings, factor loading values of all the items were above .60 (ranging from .65 to .90).

To validate the sustainability exploitation and sustainability exploration scale we also apply confirmatory factor analysis (CFA). Table 5 summarizes the results of CFA. Fit indices for sustainability exploration and sustainability exploitation are satisfactory. The standardized loading values lies between .62 to .91 and also all the measurement variables are statistically significant related to the constructs. The values of  $\chi^2/df$  is less than 2 and the values of GFI and AGFI is closer to .90. Similarly, the values of CFI are above .90 and RMSEA is below .05. All these values indicate a good model-data fit.

**Table 5. CFA Statistics**

	No. of Items	CMIN	DF	CMIN/DF	RMR	GFI	AGFI	CFI	RMSEA
Sustainability Exploration	8	38.273	21	1.82	.045	.973	.877	.953	.039
Sustainability Exploitation	6	103.236	57	1.81	.05	.890	.893	.934	.046
Recommended values (Hair et al., 2010)				$\leq 2$	$\geq .05$	$\geq .9$	$\geq .9$	$\geq .9$	$\leq .05$

## Analysis and Results

**Table 6. Regression Analysis**

		Model
Sustainability Exploration	0.509	(t = 3.77, p < .05)
Sustainability Exploitation	0.467	(t = 3.51, p < .05)
R2	0.800	
Adjusted R2	0.799	
F	682.46	
P (Overall)	0.000	

Regression results revealed that both sustainability exploration and exploitation have positive and significant relation with corporate performance ( $\beta = .509$  and  $.467$ , respectively). The high beta value of sustainability exploration shows that it contributes more to explain variation in the dependent variable.  $R^2$  explains 80% variation in the dependent variable. The high  $F$  value and significant  $p$  value of overall model show the overall model fitness and significance.

### Multiple Mediation Analysis

Keeping in mind Baron and Kenny (1986) recommendation regarding mediator as that mediator work better when there exists a strong relation between independent and dependent variable. We expect a strong relationship between the study predictors sustainability exploration and exploitation with predicted variable non-financial performance indicators. We also propose that these non-financial performance indicators play a significant mediating role on the relationship between the studies proposed variables.

**Table 7. Mediation Analysis**

Coefficients						
Mediator	(IDV $\rightarrow$ M)	(M $\rightarrow$ DV)	(DE)	(IDE)	(TE)	Sobal Test
QP	.934, p = .000	.837, p = .000	.191, p = .000	0.783	0.974	z = 12.37, p = .000
EP	.924, p = .000	.298, p = .000	.698, p = .000	0.275	0.973	z = 6.14, p = .000
IP	.600, p = .000	.083, p = .012	.924, p = .000	0.049	0.973	z = 2.48, p = .013
SP	.611, p = .000	.107, p = .000	.908, p = .000	0.066	0.974	z = 3.24, p = .001
Part 2						
QP	.921, p = .000	.848, p = .000	.177, p = .000	0.782	0.959	z = 12.41, p = .000
EP	.908, p = .000	.304, p = .000	.683, p = .000	0.276	0.959	z = 6.29, p = .000
IP	.571, p = .000	.109, p = .000	.896, p = .000	0.062	.958	z = 3.30, p = .001
SP	.589, p = .000	.124, p = .000	.886, p = .000	0.073	0.959	z = 3.75, p = .000

The first part of the table reports mediation of four possible mediators on sustainability exploration and FMP relationship. Part second of the table reports mediation of our four mediators on sustainability exploitation and FMP relationship. The direct effect of all the relationship is significant. Similarly,  $z$  and  $p$  values of the mentioned relationship is significant which indicate that the mediators i.e. QP, EP, IP and SP partially mediates the relationship of sustainability practices and corporate FMP.

### Discussion and Conclusion

Previous studies contribute a rich understanding regarding sustainability practices

(Maletic et al., 2015; Pujari, 2006; Fairfield et al., 2011). Both managers and researchers are trying to understand how to customize sustainability practices. Based on the detail analysis of sustainability practices ensure that it could be applied to a wide range i.e. efficiency approaches and innovation aspects. In the era of this cutthroat competition, organization's success contingent with proper exploitation of its available resources and with the same time explore new capabilities. Although, answer to the quandary of exploitation-exploration, no prior study was done except Maletic et al., (2014a, 2014b, 2015) within the sustainability framework. These two different concepts within the sustainability framework was empirically tested and validated by the current research. Previous researches based on the theoretical notions that sustainability practices enhance performance and long-term survival, but no empirical support was given to justify the phenomena (Maletic, 2014; Wagner, 2010). However, some studies investigated that adopting sustainability practices enable organizations to gain economic benefits, while few studies actually measure performance through a wider set of performance indicators.

Beside this, that our study investigates the ways through which sustainability practices enhance organizational performance (financial and market), this study also contributes to the sustainability literature regarding the importance of sustainable innovation (Maletic et al., 2016). We also found that IP, QP, EP and SP partially mediate the relationship of sustainability practices and FMP. One possible justification as that sustainability is the main component of innovation. To remain competitive, organizations must innovate their products and services. In case of sustainability exploration practices, our results support the notion that integrating sustainability practices in product development can enable organizations to boost their financial performance. Kuei and Lu, (2013) argued that one must also join TQM principles in sustainability management. Thus, organizations need to insert sustainability-oriented practices in the development stage of product or process.

## **Practical Implications**

Regardless of the importance of sustainability practices, there is still confusion as practitioners and researchers still practice mixed results. Generally, the study in hand helps organizations in several ways to successfully organize and implement sustainability practices. In order to achieve superior performance managers should considered both sustainability practices i.e. exploration and exploitation in parallel. For instance, organization may bear huge cost for excessive exploration because the results of exploration in tangible form may be expected after some time. On the other hand, by focusing only on exploitation hinder organizations to accumulate learning and development. To take advantage by using both sustainability practices in their processes, firms have clear knowledge about the



difference between them as well as the situation in which both or one of them may be less or more effect innovative performance and economic benefits.

### **Future Research Area**

The current study is limited in few ways which also give opportunities to future researchers to further explore the phenomena. The current research uses subjective measures based on managers perceptions and did not account the possible shortcomings associated with perceptual data. Hence, future research should revalidate the study scale to overcome generalizability issue. Despite the relationship between the stated variables considered in this study, future research may also inspect other dimensions like quality management-oriented organization culture and sustainability-oriented organization culture. By examining the indirect effect of organization culture characteristics on sustainability practices and organizational performance relationship is another interesting area of future research.

## References

- Amini, M. and Bienstock, C.C. (2014), Corporate sustainability: an integrative definition and framework to evaluate corporate practice and guide academic research, *Journal of Cleaner Production*, 76, 12-19.
- Baron, R. M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182
- Carroll, A.B. & Shabana, K.M.. (2010). The Business Case for Corporate Social Responsibility: A Review of Concepts, Research and Practice. *International Journal of Management Reviews*. 12 (1), 85-105.
- Chang, D. & Kuo, L.R. (2008). The Effects of Sustainable Development on Firms' Financial
- Fairfield, K.D., Harmon, J. & Behson, S.J. (2011). Influences on the organizational implementation of sustainability: an integrative model . *Organization Management Journal*, 8, 4–20.
- Hart, S.L., & Milstein, M.B. (2003). Creating sustainable value . *Academy of Management Executive*, 17 (2), 56-69.
- Jonker, J. & Karapetrovic, S. (2004). Systems thinking for the integration of management systems. *Business Process Management Journal*, 10 (6), 608-615.
- Koo, C., Chung, N., & Ryoo, S.Y. (2014). How does ecological responsibility affect manufacturing firms' environmental and economic performance?, *Total Quality Management & Business Excellence*, 25 (9-10), 1171-1189.
- Kuei, C. & Lu, M.H. (2013), Integrating quality management principles into sustainability management. *Total Quality Management & Business Excellence*, 24 (1-2), 62- 78.
- Kuei, C. & Lu, M.H. (2013). Integrating quality management principles into sustainability management. *Total Quality Management & Business Excellence*, 24(1-2), 62- 78.

- Maletič, M. (2013). Influence of Sustainable Quality Management on Organisational Performance. PhD thesis. Kranj, University of Maribor, Faculty of Organizational Science.
- Maletič, M., Maletič, D., Dahlgaard, J.J., Dahlgaard-Park, S.M. & Gomišček, B. (2014a). Sustainability exploration and sustainability exploitation: From a literature review towards a conceptual framework. *Journal of Cleaner Production*, 79, 182-194.
- Maletič, M., Maletič, D., Dahlgaard, J.J., Dahlgaard-Park, S.M., & Gomišček, B. (2014b). The Relationship between Sustainability–Oriented Innovation Practices and Organizational Performance: Empirical Evidence from Slovenian Organizations. *Organizacija*, 47(1), 3-13.
- Marcus, A.A. & Fremeth, A.R. (2009). Green Management Matters Regardless. *Academy of Management Perspectives*, 23(3), 17-26.
- Matos, S. & Silvestre, B.S. (2013). Managing stakeholder relations when developing sustainable business models: the case of the Brazilian energy sector. *Journal of Cleaner Production*, 45, 61-73.
- Prajogo, D., Tang, A.K.Y. & Lai, K. (2012). Do firms get what they want from ISO 14001 adoption?: an Australian perspective. *Journal of Cleaner Production*, 33, 117-126.
- Psomas, E.L., Fotopoulos, C.V. & Kafetzopoulos, D.P. (2011). Motives, difficulties and benefits in implementing the ISO 14001 Environmental Management System. *Management of Environmental Quality: An International Journal*, 22(4), 502-521.
- Pujari, D. (2006). Eco-innovation and new product development: understanding the influences on market performance. *Technovation*, 26, 76–85.
- Rasi, R.Z.R.M., Abdekhodae, A. & Nagarajah, R. (2014). Stakeholders' involvements in the implementation of proactive environmental practices. Linking environmental practices and environmental performances in SMEs. *Management of Environmental Quality: An International Journal*, 25(2), 132-149.
- Salzmann, O., Ionescu-Somers, A., and Steger, U. (2005). The Business Case for Corporate Performance – an Empirical Approach. *Sustainable Development*, 16, 365–380.

- Schaltegger, S. & Synnestvedt, T. (2002). The link between 'green' and economic success: environmental management as the crucial trigger between environmental and economic performance. *Journal of Environmental Management*, 65, 339-346.
- Schaltegger, S. & Wagner, M. (2006). Managing and measuring the business case for sustainability: Capturing the relationship between sustainability performance, business competitiveness and economic performance. In *Managing the business case for sustainability: The integration of social, environmental and economic performance*, (eds) S. Schaltegger & M. Wagner, 1–27. Greenleaf, Sheffield.
- Siegel, D.S. (2009). Green Management Matters Only If It Yields More Green: An Economic/Strategic Perspective. *Academy of Management Perspectives*, 23(3), 5-16.
- Sustainability: Literature Review and Research Options, *European Management Journal*, 23 ( 1, 27–36.
- Van Marrewijk, M. & Werre, M. (2003). Multiple levels of corporate sustainability. *Journal of Business Ethics*, 44, 107-19.
- Wagner, M. (2005). Sustainability and Competitive Advantage: Empirical Evidence on the Influence of Strategic Choices between Environmental Management Approaches. *Environmental Quality Management*, 14(3), 31-48.
- Wagner, M. (2008). Links between sustainability-related innovation and sustainability management. SFB 649 Discussion Paper 2008-046. Berlin: Technische Universität München. Retrieved, April 13 from <http://sfb649.wiwi.huberlin.de/papers/pdf/SFB649DP2008-046.pdf>
- Wagner, M. (2010). The role of corporate sustainability performance for economic performance: A firm-level analysis of moderation effects. *Ecological Economics*, 69, 1553–1560.
- Wagner, M. & Schaltegger, S. (2004). The Effect of Corporate Environmental Strategy Choice and Environmental Performance on Competitiveness and Economic Performance: An Empirical Study of EU Manufacturing. *European Management Journal*, 22(5), 557–572.

- Wagner, M., Van Phu, N., Azomahou, T. and Wehrmeyer, W. (2002). The relationship between the environmental and economic performance of firms. An empirical analysis of the European paper industry. *Corporate Social Responsibility and Environmental Management*, 9, 133–146.
- Weber, M. (2008). The business case for corporate social responsibility: A company-level measurement approach for CSR. *European Management Journal*, 26, 247–261.
- Young, W. & Tilley, F. (2006). Can Businesses Move Beyond Efficiency? The Shift toward Effectiveness and Equity in the Corporate Sustainability Debate. *Business Strategy and the Environment*, 15(6), 402–415.