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Abstract

Environmental management practices are the driving force for many firms as they help to achieve sustainability. The current study revisits the premises of effect of environmental management practices on firm performance in Indian small- and medium-sized enterprise (SMEs) context. This study considers firm performance as environmental, marketing and financial performance, and argues the moderating effect of top management commitment. We collected data from 594 employees working in manufacturing firms of SMEs of India. Structural equation modeling was used to test the paths, with Hayes PROCESS macro for moderation analysis. The four dimensions of environmental management practices were extracted. The findings confirm the influence of environmental management practices on firm performance. Further, top management commitment significantly moderates the relationships. The study offers an insights which is of interest to the companies and policy makers for understanding important of environmental management and its financial implications.

Keywords: Environmental management practices, manufacturing firms, SMEs, management commitment

1. Introduction

In recent past, the growing globalization has led businesses to center sustainability in marketing decision-making (Huang & Rust, 2011). As a result, companies have shifted their focus on environment and economy centric marketing strategy and aligned their operations is on the rise (Richey et al., 2014). Presently, companies with a business model focusing on the sustainability (Sehnm et al., 2019) are in search of practices matching their environmental and social commitments leading to achievement of sustainable goals. Henceforth, sustainable development in the form of adoption of production strategies has incorporated by business across the world.

To achieve environmental sustainability, businesses are actively considering environmental management practices (EnMPs) as their strategic choice that potentially provide a competitive edge (Yang, Hong & Modi, 2011).

Importantly, due to rising degradation of environmental health attributed to GHG emissions and manufacturing-led pollutants, businesses become more environmental-proactive (Sen, Roy & Pal, 2015). Small, medium-sized, and big manufacturing businesses make a substantial contribution to solid waste, emission, waste-water leading further degradation of environment (Marshal et al., 2011). In fact, SMEs are the largest employment provider and make up around 90% of world's business (Dey et al., 2018). In India, Micro,

Small and Medium sized companies are referred as SMEs with not more than 250 employees in the firm. Indian SMEs contributing to 35% of gross value of output in manufacturing sector, are 1.3 million reflecting 80% of country's industrial enterprises (Singh, Brueckner & Padhy, 2015). However, Indian SMEs contribute to the 70% of all industrial pollution, stressing the adoption of more environmental management practices.

Simply, EnMPs are the "techniques, policies and procedures a firm uses that are specifically aimed at monitoring and controlling the impact of its operations on the natural environment with a scope to operational, tactical or strategic" (Montabon, Sroufe, & Narasimhan, 2007: p. 999). The EnMPs implementation in businesses influence the environmental performance reflecting the overall operational impact of their actions on environment (Green et al., 2012). It is believed that enhances business performance on environment increases financial performance and market performance. According to resource-based view theory (RBV), businesses with know-how of adoption of EnMPs is considered as great resources which are difficult to imitate and potentially create unique competitive advantage (Wright, Dunford, & Snell, 2001). In fact, businesses are unclear about the benefits of adopting EnMPs over the costs invested. However, manufacturing businesses are unclear about implementation details of EnMPs offering competitive edge.

Therefore, the purpose of the study is to test the influence of EnMPs on business performance conceptualized as environmental performance, and marketing performance for the manufacturing companies. The study is set up like follows: the following paragraph deals with the literature discussion leading to the hypotheses, followed by research methods and analysis. Findings are discussed and presented in the form of valuable (theoretical and practical) implications, along with limitations of the study in the last section.

Review of literature

2.1 Natural resource-based view (NRBV) theory & EnMPs

Natural resource based view (NRBV) theory is an extension of the resource based view (RBV) theory (Hart, 1995) referring to environmental management. He further stated that in order to effectively interact with the natural environment, business or governmental organizations need to establish key abilities. According to Lockett et al. (2009) whether tangible or intangible assets of any businesses with static or dynamic in nature are the centrality to speak about the resource-based view. According to Russo & Fouts (1997), an environmental management plan based on strategic resources that display the attributes outlined by the (RBV) Resource based view can theoretically give a persistent competitive advantage.

As per NRBV, pollution avoidance, product stewardship, and sustainable development are three crucial strategic capabilities, Hart & Dowell (2011) noted in their editorial. Each of them is impacted differently by the environment and depends on many different important resources, and has a unique competitive edge. Business performance is depending on company's resources. According to Barney (1991), a company that has certain resources that are "valuable, scarce, inimitable, and non-substitutable" will have a long-term competitive edge. This research employs this theory as a base to make the framework and to contextualize EnMPs inside the business internal capabilities, resulting in improved performance. Businesses with the ability to position their business environmentally friendly through EnMPs implementation can achieve the competitive advantage which is highly sustainable.

2.2 EnMPs and business performance

Businesses started reducing the waste and other allied processes are inclined more towards adopting EnMPs. As the stakeholder pressures on the rise (Buisse & Verbeke, 2003), businesses may expand the scope and include wider set of EnMPs that captures adoption of Environmental Management system (ISO 14001

standards), product-and process-design for environment, recycling etc. (Montabon et al., 2007). Upon effective adoption of EnMPs, many businesses are benefited in water consumption, raw material requirement that not only prevents natural resources depletion, but also help them to save financially (Jayal et al., 2010). Therefore, EnMPs when implement influences business performance which is multi-dimensional and captures environmental performance, financial and market performance (hereafter EP, FP and MP respectively).

Yang, Hong & Modi (2011) considered “degree to which business improves its performance in respect to environmental responsibilities as EP, over market-valued outcomes as FP and profit-oriented outcomes as MP” (p. 252). They studied the influence of EnMPs on business performance in manufacturing companies operating international. Montabon et al. (2007) used corporate reports as data of mixed sample for testing the link between EnMPs and business performance.

Furthermore, Richey et al. (2014) claimed that in the context of sales, retailing, and wholesaling businesses, environmental strategic emphasis may be used to improve financial and market performance with a moderating influence of resource commitment.

According to (Sen et al., 2015) Financial performance of a company can be linked through environmental proactivity of manufacturing companies considering operational performance as mediating variable. In fact, Yang et al. (2019) developed the sustainability model for manufacturing companies using green HRM as EnMPs. Further, Aslam et al. (2020) believed that EnMPs were associated with both financial and environmental performance. Table No.1 provided an outline of key environmental management studies investigating EnMPs → performance relationships.

Table 1: Literature studying EnMPs → performance link

Study	Context	Relationship	Specificity
Montabon et al. (2007)	Mix (local and international) companies	EnMPs → performance	Corporate reports as data
Yang, Hong & Modi (2011)	Manufacturing (International)	Lean mfg → EnMPs EnMPs → business performance	EnMPs as mediator
Richey et al. (2014)	Sales, retailing, and wholesaling organizations	Environmental strategic focus and FP and MP	Resource commitment as moderator
Sen, Roy & Pal (2015)	Manufacturing	Environmental proactivity → FP	Operational performance (Mfg and non-mfg) as mediator
Yang et al. (2019)	Manufacturing	EnMPs (Green HRM) → Sustainability	---
Aslam et al. (2020)	225 listed companies	EnMPs → EP and FP	Environmental performance as mediator
This study	Manufacturing	EnMPs → Business performance	Top management commitment as moderator

Note: Business performance includes EP, FP, MP; EP=Environmental performance, MP=Market performance; FP= Financial performance

Based on above discussion, following hypotheses were formulated:

H1: EnMPs has significance positive influence on EP in manufacturing companies.

H2: EnMPs has significance positive influence on MP in manufacturing companies.

H3: EnMPs has significance positive influence on FP in manufacturing companies.

Generally, improved environment performance could help to strengthen the brand image and eventually more sales and profits. According to Luo & Bhattacharya (2009), companies who perform better on their environmental impact gets benefits in highly satisfied customer and eventually higher loyalty towards the company. Importantly, companies with lower emission, reduced waste are in better position to reduce the financial burden. The improved social performance of the company on a larger view may benefited from the enhanced market valuation (Luo and Bhattacharya, 2009). In his study, Aslam et al. (2020) tested the impact of EnMP on financial performance via environmental performance using a sample of 225 listed businesses. The following hypotheses were put up in light of this.

H4: EP has significance positive influence on MP of manufacturing companies.

H5: EP has significance positive influence on FP of manufacturing companies.

2.3 Top management commitment as a moderator

Van Egeren & O'Connor (1998) defined top management commitment as “the leadership and motivation provided by managers for a given endeavor” (Richey et al., 2014). In having successful implementation of EnMPs, companies must strengthen strategic planning, reflected at the corporate level (Stone & Wakefield, 2000) and therefore the role of top management commitment is very critical in making this as strategic priority. For this reason, behavioural view of corporate governance considering economic and human side was used as a roadmap.

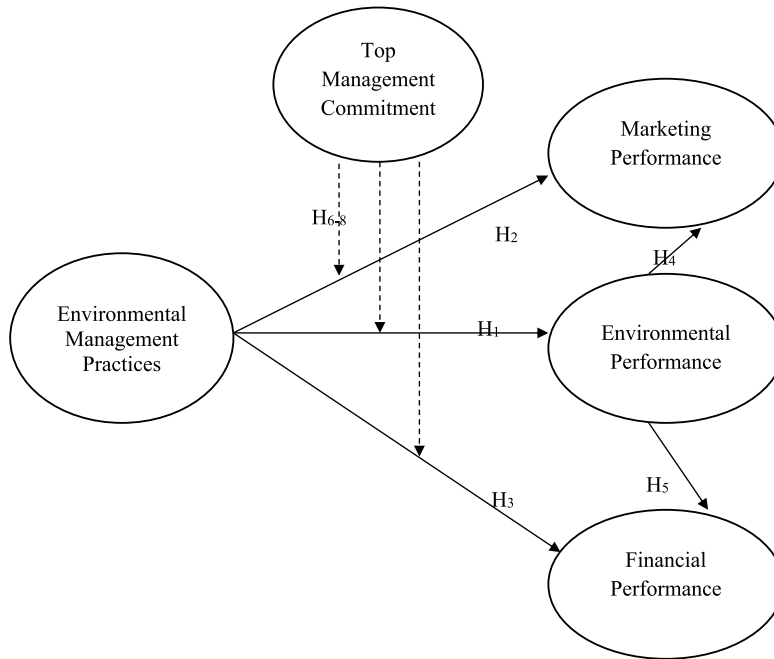
Hamel & Prahalad (1989) found that top-management support is a significant factor in the effective adoption and implementation of new technology, programs, and activities.

Chiou et al. (2011) stated that the green product and process innovations should be the primary focus of senior management, as there is a closer correlation between them and environmental performance. Managers must also understand that green resources, such as environmental investments and top-level management commitment, are required for process management (Gavronski et al., 2011).

The behavioural theory of corporate governance is a synthesis of the positive agency theory and a behavioural view of the organization that takes into account “broad conduct and process of the firms with entire human side”; (Kaczmarek, 2017, p. 901), with top management playing a critical role in achieving sustainable capacities. Top management commitment is the key to manufacturing business sustainability (Eccles et al., 2012) and helps to acquire a competitive edge.

It was well documented that companies with higher top management commitment effectively implements EnMPs and therefore better environmental performance can be achieved. Importantly, top management can effectively provide leadership while implementing EnMPs and achieving better financial returns. Top managers realized that full- inclusion of mind-set to actual strategy will results more in terms of enthusiasm, saving etc. (González & Palacios, 2002) and finally better financial performance.

Fig. 1: The research model



This discussion leads to following hypotheses and research model (figure 1):

H6: EnMPs with higher level of top management commitment increases the EP of manufacturing companies as opposed to the lower level.

H7: EnMPs with higher level of top management commitment increases the MP of manufacturing companies as opposed to the lower level.

H8: EnMPs with higher level of top management commitment increases the FP of manufacturing companies as opposed to the lower level.

3. Research methods

3.1 Target population

Manufacturing companies was a very natural population of interest for policymakers as they were directly linked with natural environment. Environmental constructs used in this study requires relevant knowledge and expertise and therefore individuals who can and who will provide desired information were selected using “key informants technique” (Lewis & Sheppard, 2006; Famiyeh et al., 2018). Hence, Purposive sampling technique was used to identify key “informants” who are aware and well versed about EnMPs energy management practices across the company (Bernard, 2002). The respondents should converse high in organizational hierarchy and therefore aware about companies’ strategic environmental issues. For a cross-sectional intercept survey, a structured questionnaire with the English language served as the instrument (standard). The participants were contacted at the companies to collect unbiased data.

The manufacturing companies and plants were considered as the sampling unit for this study and senior-

level managers, top management, or owners were considered as the sample elements. Over a time-span of six months, 900 respondents were contacted over phone and upon the consents, the responses were collected at the companies' premises. Of these, 637 responses were collected (~70% approximate response rate), which included the responses with containing partial or incomplete information. After removing the replies with missing values, 594 valid responses were taken for analysis.

The profile of the responders is as follows (see Table 1): 56.6 percent of respondents worked for businesses with more than 100 people, while 28.3 percent worked in engineering goods and 37.4 percent worked for chemical industries. 75.4 percent of respondents worked for small- and medium-sized businesses, whereas 48.3 percent of respondents were employed by public limited corporations. 67.3 percent of respondents had a combined experience of 20 years or more, and 77.9 percent of respondents worked for organisations that have taken part in one or more of the energy or environmental certification programmes.

Table 1: Company characteristics of the respondents in the Gujarat region

Variables	Particulars	Frequency	%
Type of company	Chemical	222	37.4
	Dairy	24	4.0
	Engineering	168	28.3
	Fertilizer	24	4.0
	Oil and gas	24	4.0
	Pharmaceutical	48	8.1
	Pulp and paper	24	4.0
	Sugar	24	4.0
	Textiles	36	6.1
Number of employees	0 to 30	42	7.1
	31 to 100	216	36.4
	101 to 200	123	20.7
	201 - 999	213	35.9
Firm ownership	PUBLIC	287	48.3
	PVT.	188	31.6
	Partnership company	2	0.3
	Others	117	19.7
Size of the company	Micro	51	8.6
	Small	212	35.7
	Medium	331	55.7
Participation with energy or environmental certification	Yes	463	77.9
	No	131	22.1
Total years of experience	6 to 10	27	4.5
	11 to 20	167	28.1
	21 to 40	400	67.3

Note: Computed based on n=594 responses.

3.2 Measurements and bias

Environmental management practices scale was adopted from Chen et al. (2016), Montabon et al. (2007), Yang et al. (2011) study. The work of Zhu, Sarkis, and Lai (2008) and Famiyeh et al. (2018) served as the foundation for the scale employed in the dependent measures of performance, such as the 5-item environmental performance scale. Finally, Yang et al. and Montabon et al. (2007) were used to develop the 5-item financial performance scale (2011). Each of these concepts was evaluated using a 5-point Likert scale, where 1 represents a strong disagreement and 5 represents a strong agreement.

However, it must be remembered that there is a chance of common method variance (CMV) when results are gathered via self-reported surveys (Fuller et al., 2016). Harman's single-factor technique, which was utilised to determine the existence of CMV, was regarded the most suitable solution to address this (Babin, Griffin, & Hair, 2016). This technique's outcome showed that one component explained 33.7 percent of the variation (less than 50%), ruling out the possibility of any common procedure bias (Harman, 1976).

3.3 Reliability of scales

The most often used reliability measure is Cronbach's alpha, which was employed in this investigation (Zikmund et al., 2010). Prior to EFA, reliability measurements were shown in Table 2. Reliable factors should have a Cronbach's alpha of more than 0.6. (Zikmund et al., 2010). The item-to-total correlations for all items was above 0.35 (Cristobal et al., 2007), except two.

Table 2: Constructs' scale reliabilities

Construct	No. of Items	Cronbach's alpha
Environmental Management Practices	20	0.880
Top Management Commitment	5	0.782
Environmental Performance	5	0.781
Marketing Performance	5	0.744
Financial Performance	5	0.806

4. Results

Considering the multi-dimensional nature of EnMPs construct, Exploratory factor analysis (EFA) was performed to identify underlying structure. EFA is an inter-dependence technique appropriate for understanding intrinsic relationships between measured variables (Norris et al., 2009). Structural equation modeling was done in two steps once the variables were extracted: the measurement model was validated and the structural model's hypotheses were tested (Hair et al., 2010).

4.1 EFA

To perform EFA, all the constructs were measured with interval data. For final iteration considering deletion of required item, the KMO Measure of Sampling Adequacy was found above 0.7 with significant Bartlett's test of Sphericity ($p < 0.05$), depicting how well data fits for performance of EFA (Kaiser, 1970; Hair et al., 1998). Principle component analysis was performed to extract the components, with the Varimax rotation and eigen values above 1 criterion. This resulted into extraction of four factors of EnMPs. Table 3 shows the extracted factors with communality values of EnMP- "planning and organizational practices",

“process related operational practices”, “communicational practices” and “product related operational practice”.

Table 3: EFA results of environmental management practices

Factor naming	Item	F1	F2	F3	F4	Community	Cronbach α
Factor 1 <i>Planning and Organizational Practices</i>	OP4	.807				0.683	0.833
	PR1	.678				0.565	
	OP5	.670				0.554	
	OP1	.661				0.558	
	OP3	.643				0.590	
	OP2	.615				0.581	
Factor 2 <i>Process related Operational Practices</i>	PS2		.768			0.638	0.753
	PS1		.741			0.623	
	PS4		.716			0.570	
	PS3		.708			0.548	
Factor 3 <i>Communicational Practices</i>	CP2			.782		0.669	0.738
	CP3			.712		0.596	
	CP1			.711		0.561	
Factor 4 <i>Product related Operational Practices</i>	PR4				.783	0.682	0.685
	PR3				.769	0.622	
	PR5				.558	0.505	
	PR2				.539	0.582	

4.2 Measurement model

Second-order CFA revealed that EnMPs have a four-dimensional structure. All fit indices in the measurement model's initial run were found to be over the required level, thus the model was changed by removing the elements with factor loadings of less than 0.5. (Hair et al., 2010). Items OP5, PR2, MP4, MP5, TE5, and PR1 were found to have lower factor loading values and were taken out of further consideration. After doing CFA once more, it was discovered that all of the indices [CMIN/df = 2.759; GFI = 0.9; AGFI = 0.87; TLI = 0.89; CFI = 0.897 and RMSEA = 0.054] fell inside the permissible ranges. t-values of each item was significant with factor loading above 0.5 and the composite reliabilities values above 0.7 except for marketing performance (0.66) and process related operational practices (0.63), indicating establishment of construct validity.

4.3 Structural model

IBM AMOS 27.0 was used to test the structural model. It was observed that all the fit indices were very close to the acceptable fit indices: CMIN/df = 3.167; GFI = 0.9; AGFI = 0.86; TLI = 0.87; CFI = 0.89 and RMSEA = 0.06. To gauge the significance of each hypothesis, path with its t-values and standardized estimates were presented in table 4. R-square for environmental performance, marketing performance and financial performance was 40%, 40% and 36% respectively.

Table 4: results of the structural analysis

Hypothesized Paths	Standardized Estimates	t-value	Sig.	Results
POP → EP	0.22	3.038	0.002*	Supported
POP → MP	0.15	2.130	0.033*	Supported
POP → FP	0.21	-2.115	0.034*	Supported
Process related operational practices → EP	0.41	6.328	0.001*	Supported
Process related operational practices → MP	0.14	2.161	0.031*	Supported
Process related operational practices → FP	0.15	2.499	0.012*	Supported
Communicational practices → EP	0.06	0.871	0.384	Not supported
Communicational practices → MP	0.14	1.983	0.047*	Supported
Communicational practices → FP	0.15	2.302	0.021*	Supported
Product related operational practices → EP	0.09	1.522	0.128	Not supported
Product related operational practices → MP	0.10	-1.743	0.081	Not supported
Product related operational practices → FP	0.12	-2.115	0.034*	Supported
EP → MP	0.40	5.584	0.001*	Supported
EP → FP	0.31	4.628	0.001*	Supported

Note: *p<0.05; R-Square (EP)=0.40; R-Square (MP)=0.40; R-Square (FP)=0.36; POP= Planning and organizational practices

In this case, the direct influence of EnMP dimension- planning and organizational practices was found to be significant and positive on environmental performance ($\gamma=0.22$; $t=3.038$; $p<0.05$) and marketing performance ($\gamma=0.15$; $t=2.130$; $p<0.05$). Interestingly, the direct influence of planning and organizational practices on financial performance was significant and negative ($\gamma=0.21$; $t=-2.115$; $p<0.05$). Further, process related operational EnMPs was significantly related to environmental performance ($\gamma=0.41$; $t=6.328$; $p<0.05$), environmental performance ($\gamma=0.14$; $t=2.161$; $p<0.05$) and environmental performance ($\gamma=0.15$; $t=2.493.038$; $p<0.05$). In fact, communicational practices were found to be significant and positive relationship with marketing performance ($\gamma=0.14$; $t=1.983$; $p<0.05$), negative with financial performance ($\gamma=0.15$; $t=2.302$; $p<0.05$) and insignificant with environmental performance ($p>0.05$).

The product related operational practices were found to be significant and negative with financial performance ($\gamma = 0.12$; $t = -2.115$; $p < 0.05$) and insignificant with environmental and marketing performance ($p > 0.05$). Moreover, environmental performance positively enhances the marketing performance ($\gamma = 0.40$; $t = 5.584$; $p < 0.05$) and financial performance ($\gamma = 0.31$; $t = 4.628$; $p < 0.05$). Therefore, environmental performance partially mediates planning and organizational practices → marketing performance relationship and process related operational practices → MP relationship. Similarly, environmental performance partially mediates planning and organizational practices → financial performance relationship and process related operational practices → financial performance relationship.

4.4 Moderation analysis for top management commitment

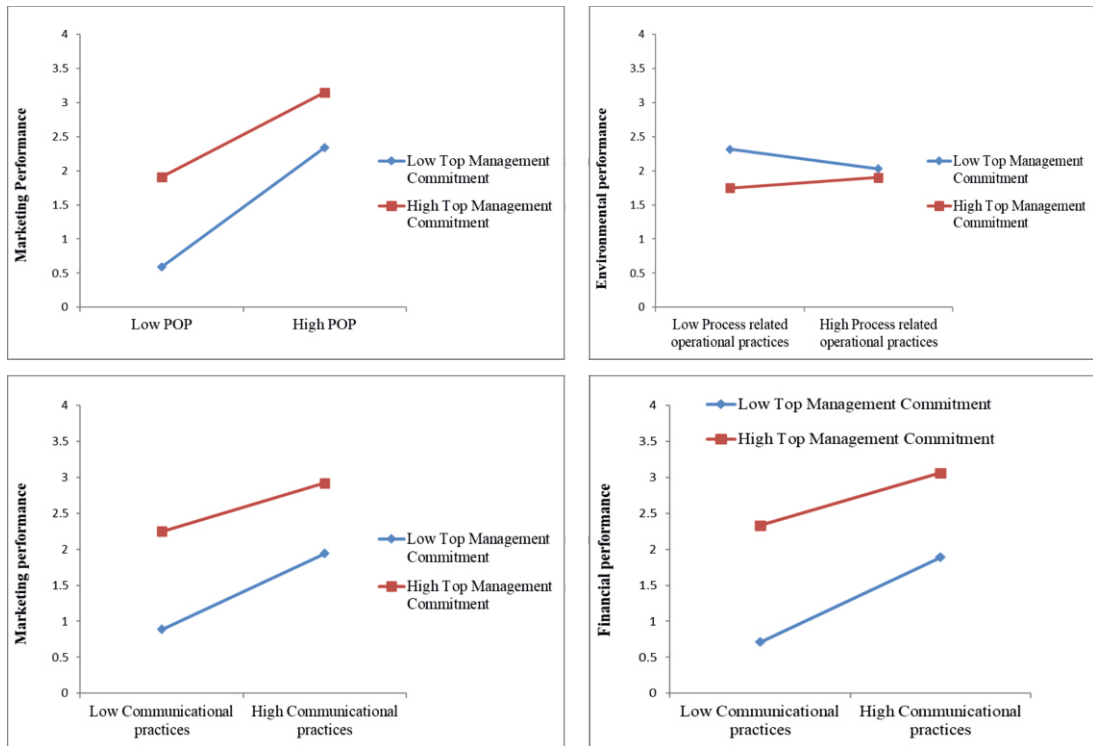
Table 5: Results of moderation analysis

Predictors	B	SE	t	95% CI (LL, UL)
Marketing performance				
POP x Top management commitment	-0.1273	0.0412	-3.08*	(-0.2082, -0.0464)
Environmental performance				
Process related operational practices x Top management commitment	0.1095	0.0621	1.762**	(-0.0126, 0.2315)
Marketing performance				
Communicational practices x Top management commitment	-0.909	0.0413	-2.323*	(-0.1771, -0.0148)
Financial performance				
Communicational practices x Top management commitment	-0.1115	0.0388	-2.870*	(-0.1877, -0.0352)

Note: * $p < 0.05$; ** $p < 0.1$; EnMPs= Environmental Management Practices; CI= Confidence Interval; LL= Lower Limit; UL= upper Limit; Bootstrap Sample size= 5000

To test the moderating effect of top management commitment for hypothesis EnMPs → EP, EnMPs → MP and EnMPs → FEP, Hayes' PROCESS macro regression (Model 1) was used (Hayes, 2012). Table 5 shows that the moderation effect of top management commitment for planning and organizational practices → marketing performance ($t = -3.08$; $p < 0.05$), communicational practices → marketing performance ($t = -2.323$; $p < 0.05$), communicational practices → marketing performance ($t = -2.87$; $p < 0.05$) and process related operational practices → environmental performance ($t = 1.762$; $p < 0.1$) were found to be significant.

Fig. 2. The moderation effect of top management commitment



Upon further examination of these relationships, conditional process analysis indicated that top management commitment strengthens the positive relationship between "process related operational practices" and "environmental performance" as top management commitment is strengthened from low to high. The relationship between "planning and organizational practices" and "marketing performance" weakens as top management commitment is increased from low to high. Further, the relationships of "communicational practices" with "marketing performance" and "financial performance" weakens as top management commitment is increased from low to high (Fig. 2).

5. Discussion, implications and limitations of the study

5.1 Discussion

Understanding the impact of EnMPs on the financial, marketing, and environmental performance of Indian manufacturing enterprises is where this study's novelty resides. This is a unique research that examines the link between EnMPs and company performance using the framework from the behavioural theory of corporate governance. As per the findings, study confirms partial mediation of planning and organizational practices → EP → MP, process related operational practices → EP → MP, planning and organizational practices → EP → FP and process related operational practices → EP → FP.

Three direct relationships hypotheses were not found to be significant (Process related operational practice → EP, Product related operational practice → EP, Product related operational practices → MP). In the model, all the predictor constructs explain upto 40% for marketing performance and 36% for financial performance.

Interestingly, planning and organizational processes & process related operational processes affect FP negatively (consistent with Yang et al., 2011) and leads to enhanced EP, consistent with King et al. (2005).

5.2 Theoretical contributions

This study offers following valuable theoretical contributions: first, the study's findings in fact broadens our understanding of Resource-based-view of the business by exploring their relative contribution to implement more EnMPs and subsequently environmental, financial and marketing performance. as per RBV, businesses can sustain a competitive advantage in the form of their environmental performance if they continuously build and develop resources and competencies in the form of effective EnMPs adoption and implementation. Further, this study takes a significant step in advancing the understanding the human side perspective of behavioural theory of corporate governance suggesting how critical the role of top management commitment in successfully implementing the EnMPs in Indian manufacturing businesses. Finally, businesses can adopt more and more cutting edge EnMPs and systems and continue with doing if it is financially possible to do (Sharma & Iyer, 2012). Basically, businesses have limited amount of resources and therefore remain selective in areas for investment. Therefore, this study offers valuable strategic insights in allocation of resources as EnMPs offers the most rewarding resources to invest upon.

5.3 Practical contributions

This study explains how adoption of EnMPs a most significant step can be considering it ability to bring environmental sustainability, not only in the form environmental performance but financially too. Therefore, managers are encouraged to adopt more and more EnMPs and develop the resources which are difficult to copy and sustainable. In implementing EnMPs, process related operational practices contribute most in enhancing the environmental practices. Further, the findings indicated positive and negative effect of EnMPs is bi-fold: First, ENMPs have a detrimental direct impact on marketing and financial performance. Secondly, ENMPs have a favorable indirect impact on both financial and marketing performance. EnMPs have an impact on environmental performance, which in turn has a favorable impact on marketing and financial success.

Therefore, the short-run implementation focus of any manager of manufacturing companies in India should be on improving environmental performance, by clearly unedifying the most critical process related operational practices to effectively offering positive results on environmental performance and importantly the communicational practices of EnMPs within the company that yields improvement in solid waste disposal, less pollutants in emission etc. While in long run, the increased year-on-year environmental performance gradually increases companies' reputation among the customers which translates into higher customer satisfaction and loyalty. This will further increase the financial performance of the manufacturing companies.

Interestingly, top management commitment moderates the relationship between EnMPs → performance for few dimensions. Top management can play a strategic role when implementing the ENMPs from the perspective of straitening planning and organizational practices and establishing most formidable communicational practices that potentially increases the marketing performance and environmental performance.

5.4 Limitations of the study

As far as this study is concerned, following limitations are noted: heavy reliant on self-reported measures may be biased in the case where "key informants" have exaggerated their EnMPs adoption and business

performance ratings. Future researchers may use data triangulation in the form collecting actual data of environmental, financial and marketing performance to reduce the bias. The study used single cross-sectional data that reduces the generalizability of the results and therefore sizable studies can be carried out taking longitudinal data using panel data of Indian manufacturing companies for better understanding. Further, this study broadens the understanding of the research model using Indian manufacturing companies and therefore the results may vary and the interpretations for the SMEs. The future studies can also more relevant variables such as resource commitment and control variables as business size etc. to understand relationships better.

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