I J A B E R, Vol. 14, No. 6, (2016): 4615-4631

ENTREPRENEURIAL COMMITMENT, ORGANIZATIONAL SUSTAINABILITY AND BUSINESS PERFORMANCE OF MANUFACTURING MSMES: EVIDENCE FROM INDIA

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Abstract: *Organizational sustainability in manufacturing industry is an essential milestone towards the creation of greener environment. In last two decades, firms have taken serious sustainable initiatives to combat the apprehension of environmental and societal hazards due to increased industrialization. Small firms exhibit a non-congenial and skeptical approach towards climate change challenges. This study is an attempt to understand the motivation of Micro, Small and Medium enterprises (MSMEs) toward organizational sustainability in such a competitive environment. A conceptual framework is developed to test the link among entrepreneurial commitment, organizational sustainability and business performance. Structural equation modeling (SEM) and other standard statistical analysis have been used to analyze the data collected through questionnaire survey from 262 manufacturing MSMEs in India. The study findings highlight that organizational sustainability emerged as a driving source of motivation to improve the business performance among manufacturing MSMEs in India. In addition, there is significant mediation effect of organizational sustainability on entrepreneurial commitment and business performance. It has also proves the vitality of organizational sustainability as a strategic action towards green and clean environment.*

Keywords: *entrepreneurial commitment, organizational sustainability, business performance, manufacturing, MSMEs, India*

1. BACKGROUND AND RESEARCH MOTIVATION

Rapid industrial development and economic growth have triggered over-consumption and exploitation of natural resources, resulting into environmental downturn. Across the globe, manufacturing firms are witnessed as principal felon of natural environment and facing immense pressure from different stakeholders to revaluate their strategic orientation and competence. Such adversities drive manufacturing firms to look forward for long term strategy called organizational sustainability. It has become an indispensible management

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agenda among manufacturing firms. From organizational perspective, sustainability can be elaborated as meeting the needs of organization's direct and indirect stakeholders (such as shareholders, employees, customers, regulatory bodies and society) without compromising its ability to meet the needs of future stakeholders (Dyllick and Hockerts, 2002). Sustainability entails triple bottom line including economic, environmental and social aspects (Hart and Milstein, 2003; Reith and Orova, 2015). Various studies emphasized that organizational sustainability has became focal environmental strategy among large manufacturing which is frequently discussed in public environmental debates and government policy makers (Farrukh, R. 2014; Bradford and Fraser, 2008; Revell and Blackburn, 2007; Ciliberti *et al.*, 2008). Some studies suggest that few small manufacturing firms are voluntarily practicing environmental techniques and sufficiently protecting the natural environment (Tarras-Wahlberg, 2002). In addition, few studies have usually found that owner-manager's vision and commitment to the organizational capabilities likely to develop and deploy environmental strategies (Arago´ n-Correa *et al.*, 2008). Thus, we cannot presume that small firms are not likely to adopt sustainable strategies or they do not own valuable entrepreneurial and organizational capabilities to initiate such strategies. However, small firms significantly pollute and produce around 70% of the total global pollution (Smith and Kemp, 1998) and overall outweigh the combined environmental impact of large firms (Hillary, 2000).

Despite of immense economic importance, MSMEs contributes 50 percent to the total industrial pollution (Farrukh, R. 2014). Small firms exhibit a non-congenial and skeptical approach towards climate change challenges. There is a paucity of research into how MSME should practice organizational sustainability (Sinha and Akoorie 2010; Gopal and Thakkar, 2015; Mani *et al.*, 2016) in developing countries (Subrahmanya, MB, 2011 and Mittal *et al.*, 2012; Belal and Cooper 2011; Ozen and Kusku 2009). Very few studies are available on entrepreneurial commitment and organizational sustainability in manufacturing MSME (Wani, V. P., *et al.,* 2004; Fayet, L., & Vermeulen, W. J. 2014; Kanchan, U. *et al.,* 2015). Thus the present study explores the relationship among entrepreneurial commitment, organizational sustainability and their impact on business performance in Indian manufacturing MSMEs.

The rest of the paper is designed as follows. Section 2 details the conceptual framework of organizational sustainability and research hypotheses. Section 3 comprises research methodology. Section 4 presents result findings. Finally, section 5 provides the conclusion of the research.

2. CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Inclusive growth in business depends on harmonious relationship among economy, society and environment i.e. organizational sustainability (Linton *et*

al. 2007; Amrina, E and Yusof, S.M. 2011). In last few years, large firms have developed the required capabilities to achieve organizational sustainability where as small firms lag behind due to lack of environmental awareness, entrepreneurial motivation, adequate finance and marketing assistance (Lee, 2009). Sustainability researches claimed that implementation of organizational sustainability in MSMEs positively affect the economic and social development of a nation because they minimize and nullify the impact of social and environmental hazards and stimulate the national chains of economic added value, generate job opportunities and overall business performance (Jayel *et al.* 2010; Abdulla A. S.M.H. 2006). Gopal and Thakkar (2015) argued that owner-manager motivation towards organizational sustainability is less in manufacturing industry of developing country. We conceptualized the framework of organizational sustainability including entrepreneurial commitment and business performance of small firms and elaborated in details individually.

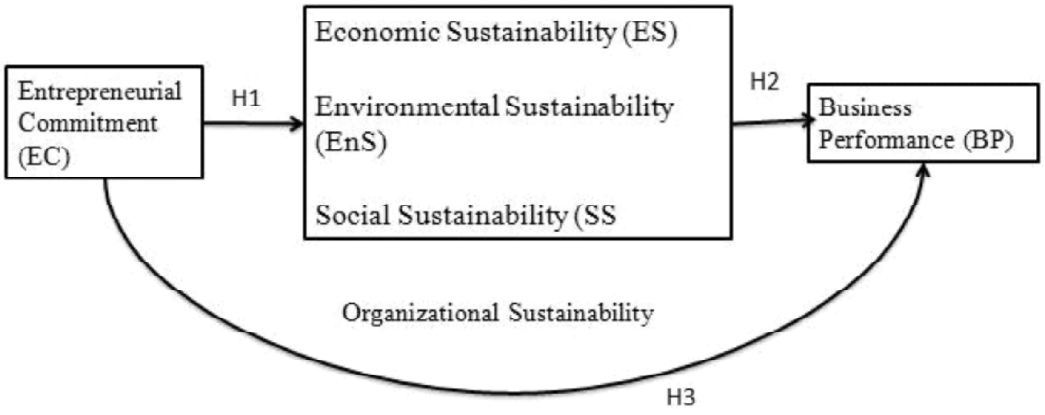

Figure 1: Conceptual framework of organizational sustainability

2.1. Organizational sustainability (OS)

In manufacturing business, organizational sustainability is an emerging and called upon discipline (Bell and Morse, 2001). It seeks to create long term shareholder value by embracing the opportunities and managing the risks (Pojasek, R. B. 2007). Organizational sustainability (OS) is broadly defined as overall proactive strategic stance of firms towards the integration of organizational economic, environmental and social objectives and practice in their strategic, tactical and operational levels. Often, owner-managers of small firms viewed organizational sustainability as fancy strategy, but it is an orientation of performing business in sustainable manner (Linnenluecke and Griffiths 2010; Zwetsloot and van Marrewijk 2004). Organizational sustainability is about building a society with balance between economic, social and ecological aims

(Szekely and Knirsch, 2005). The organizational sustainability is founded on three key dimensions namely economic sustainability, environmental sustainability and social sustainability.

2.1.1. Economic sustainability (ES)

Economic sustainability is defined as how firms can stay in business over a long period of time. It is primarily concerned with monetary capital in consideration with natural, social and human capital (Kahn, 1995). The most important economic aspects in MSMEs are: availability of capital, operational efficiency, implementation of production cycle; use of quality raw materials (Vinodh. S and Joy D., 2012; Torgusa N A *et al.* 2013; Schoenhrr T., 2012). Economic sustainability helps in achieving sustainable development by creating job opportunities, poverty eradication within the region and across the boundaries.

2.1.2. Environmental sustainability (EnS)

Environmental sustainability involves ecosystem integrity, carrying capacity and biodiversity. It entails that natural wealth act as a source of economic inputs and as a sink for wastes (Kahn, 1995; Basiago, A. D. 1998). Goodland and Daly (1996) defined environmental sustainability as "holding waste emissions within the assimilative capacity of the environment without impairing it. It also means keeping harvest rates of renewables to within regeneration rates." The most essential environmental aspects in MSMEs are usage of renewable raw materials; reduce, reuse and recycling of solid and liquid wastes; conservation of energy levels, decrease of air and noise pollution level (Vinodh. S and Joy D., 2012; Torgusa N A *et al*. 2013; Schoenhrr T., 2012).

2.1.3. Social Sustainability (SS)

Social sustainability encompasses notions of equity, empowerment, accessibility, participation, sharing, cultural identity, and institutional stability. It seeks to preserve the environment through economic growth and the alleviation of poverty (Basiago, A. D. 1998). The important social aspects in MSMEs are workplace safety and occupational health (i.e., avoidance of health hazards), employees' training and development, labor and management healthy relations and engagement of firms in philanthropic activities (Vinodh. S and Joy D., 2012; Torgusa N A *et al.* 2013; Schoenhrr T., 2012). These aspects unite, generate trust and loyalty among the employees and towards the firms.

2.2 The relationship between entrepreneurial commitment (EC) and organizational sustainability (OS)

In rapidly changing competitive and technological environment, uncertain business propositions require strong business commitment to capture new

business opportunities (Rauch *et al.* 2009). Entrepreneurial commitment is a combination of strong foresightedness, orientation and decision making capabilities. Brickman (1987) explained entrepreneurial commitment as a willingness of one's proclivity to pursue the business goals and motivate to depart from conventional practices to new ideas and experiments. Based on commitment theories and entrepreneurship literature, owner-managers' commitment works as a change agent resulting into business growth (Anderson, 1998; Kearins *et al.*, 2010). The challenging production and consumption dynamics, market structures and stringent environmental regulations drive firm's commitment towards organizational sustainability to combat environmental hazards (Schaltegger, S., Synnestvedt, T., 2002; Hockerts and Wiistenhagen, 2010; Anderson, 1998). MSMEs show less willingness towards organizational sustainability as they lacks in financial resources, technological and organizational capabilities and severe risk of return on investment. Under such circumstances, strong entrepreneurial commitment can create conducive environment, reinforce sustainable habits and values in the workplace. The strong strategic and operational discretion of owner-manager leads to the implementation of sustained practices in the firms (De Clercq, D. *et al.*, 2009; Chiang, Shih, & Hsu, 2013). Therefore, we tried to test the relationship between EC and OS and hypothesized that:

Hypothesis 1: There is a significant positive relationship between entrepreneurial commitment and organizational sustainability.

Hypothesis 1a: Entrepreneurial commitment is positively related to economic sustainability

Hypothesis 1b: Entrepreneurial commitment is positively related to environmental sustainability.

Hypothesis 1c: Entrepreneurial commitment is positively related to social sustainability.

2.3 The relationship between organizational sustainability (OS) and business performance (BP)

There are mixed indication concerning the influence of organizational sustainability on the business performance of the firms (Bansal, 2005; Christmann, 2000; Margolis and Walsh, 2003), though majority of the researchers have found a positive relationship in context of large firms. The primary objective of sustainability practices is redefinition and innovation in production and operations to minimize pollution and waste. Such advancements help firms to transform with lower costs, improved green image and competitive advantage (Christmann, 2000). Organizational sustainability has been found empirically significant and support the business performance in large manufacturing firms (Russo and Fouts, 1997; Sharma and Vredenburg, 1998). We can argue that proactive organizational sustainability stance will reward small firms with improved business performance

(Miles *et al.*, 1999, p. 120; Arago´ n-Correa, 2008). Thus, we hypothesized the relationship between organizational sustainability and business performance.

Hypothesis 2: There is a significant positive relationship between organizational sustainability and business performance.

Hypothesis 2a: Economic sustainability is positively related to the business performance.

Hypothesis 2b: Environmental sustainability is positively related to the business performance.

Hypothesis 2c: Social sustainability is positively related to the business performance.

Entrepreneurial commitment generally exhibits a positive impact on business performance but the significance may vary depending on firm size, capital investment and market conditions. Therefore, it is hypothesized that:

H3: There is a significant positive relationship between entrepreneurial commitment and business performance.

3. METHOD

A cross-sectional study has been conducted to investigate the conceptual framework of organizational sustainability and test the relationship among entrepreneurial commitment, organizational sustainability and business performance. Researches in MSMEs become inconclusive in most of the cases due to low response rate and poor interpretation of survey questions (Smith and Kemp, 1998). Due to the given reasons, each respondent have been introduced to the concept of sustainable development and data have been collected through a self-report questionnaire. The survey was conducted in one of the largest MSME base in India i.e. West Bengal in eastern region of the country. Due to which the questionnaire has been also translated into their local language (Bengali) for respondents' better understanding. A total of 570 enterprises were surveyed and 262 responses had been received from the participants, indicating a valid response rate of 46 percent. The respondents to the survey consisted of 171 owner and partner, 91 manager, and senior level employees.

The questionnaire survey consisted of four sections. First section is comprised of 5 items for entrepreneurial commitment (EC) adapted from Tang (2008) and Arend R.J. (2013). Second section consists of organizational sustainability dimensions, economic sustainability dimension (ES) comprised of three items, four items for environmental sustainability dimension (EnS) and four items for social sustainability dimension (SS) with 12 items adapted from Vinodh. S and Joy D. (2012), Torgusa N A et al, (2012) and Schoenhrr T., (2012). Third section consists of business performance with 4 items adapted from Hubbard R, (2009). All items were measured on 5 point likert scale. All constructs with their items are given in details in Appendix 1.

4. RESULT AND DISCUSSION

4.1 The measurement Model

The exploratory factor analysis (EFA) was employed to identify the underlying dimensions of scales and to purify the construct scale. The result converged on 5 constructs that explain 70.4% of the data variance. To test the sampling adequacy, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy & Bartlett's Test of Sphericity is computed. The KMO value of Sampling Adequacy is 0.886, which is acceptable (Kaiser, 1974) and Bartlett's Test of Sphericity is highly significant ($p<0.000$).

The reliability and validity of constructs are evaluated using Cronbach's Alpha, average variance extracted and inter construct correlation matrix. Reliability identifies the precision with which construct measure what is intended to measure and validity test the relationship of each variable with others in same construct. Table 1 reported the psychometric properties of the constructs. First, it is observed that Cronbach's Alpha coefficient for each construct is more than the threshold value of 0.7 exhibits good composite reliability and internal consistency (Hair *et al.* 2009). Second, factor loadings associated with each item of construct are greater than the threshold level of 0.6 (Hair *et al.* 2009). This results reliability is reasonably judged.

The validity of the constructs is measured by analyzing the Average Variance Extracted (AVE) and inter construct correlation matrix. First, Average variance extracted (AVE) value of each construct is greater than 0.5 which signifies a satisfactory degree of convergent validity (Fornell and Larcker, 1981). Second, square root of AVE (the diagonal in Table 2) for each construct was higher than the intercorrelations of the other constructs (off-diagonal elements in Table 2) support discriminant validity (Fornell and Larcker, 1981). Thus construct validity of the measures is adequately supported. The reliability and validity for the measurement model is adequately supported.

In addition to this, Confirmatory factor analysis (CFA) has been analyzed to measure and examine absolute fit indices statistics for determining the overall fitness of the model (Hair *et al.* 2009). The absolute fit indices used to evaluate the overall model fitness are: $\chi 2$ to degrees of freedom ratio (Wheaton *et al.*, 1977), goodness of fit Index (GFI) (Hoelter,1983), comparative fit index (CFI), the root mean square error of approximation (RMSEA) (Steiger and Lind,1980) where threshold values for ($\chi 2/f$) should be in between 1 to 3 (Carmines and McIver, 1981), GFI value should close or above 0.9 (Hoelter,1983). Comparative fit index (CFI) is an incremental index used to calculate the improvements over competing models (Bentler,1990). The CFI value should be above or close to 0.9, which indicates a good fit. Hair *et al.*,2006), RMSEA value should be less than 0.10 (Hu and Bentler,1999) indicates an acceptable fit. The examination of absolute fit

Table 1
Psychometric properties of scale

*Items**	*Mean*	*Standard Deviation*	*factor loading*	*Cronbach's Alpha*	*Average Variance Extracted (AVE)*
EC1	2.72	0.89	0.67	0.89	0.62
EC2	2.89	0.90	0.67		
EC3	3.00	0.95	0.91		
EC4	3.02	0.95	0.94		
EC5	3.03	0.89	0.71		
ES1	3.31	0.64	0.63	0.74	0.55
ES2	3.28	0.62	0.86		
ES3	3.39	0.64	0.73		
EnS1	3.86	0.62	0.60	0.85	0.59
EnS2	3.97	0.60	0.87		
EnS3	3.89	0.60	0.65		
EnS4	3.96	0.64	0.90		
SS1	4.03	0.70	0.90	0.89	0.66
SS2	4.02	0.72	0.78		
SS3	4.06	0.72	0.84		
SS4	4.1	0.68	0.71		
BP1	3.89	0.69	0.64	0.84	0.53
BP2	3.82	0.67	0.71		
BP3	4.08	0.62	0.70		
BP4	3.96	0.65	0.84		

*Items description in Appendix 1

statistics of CFA indicates the acceptability of measurement model ($\chi 2$=259.57, df=160, ($\chi 2$)/f = 1.622, RMSEA = 0.049, GFI=0.91, CFI= 0.964).

Table 2
Inter Construct correlation and square roots of AVE of constructs.

Factor	*EC*	*ES*	*EnS*	*SS*	*BP*
EC	**.787**				
ES	.326	**.744**			
EnS	.254	.436	**.767**		
SS	.310	.377	.499	**.811**	
BP	.435	.598	.528	.555	**.728**

4.2. Structural equation model and hypothesis testing

To validate the conceptual framework for organizational sustainability, absolute fit indices of the structural model have been analyzed as shown in Table 3. The overall fit of the integrated model was assessed by goodness of fit test using

multiple fit criteria. The key goodness of fit indices used in the study are $\chi 2/df$ statistics (277.36/161=1.72) suggest a good fit to the data (Carmine and McIver, 1981), Goodness of fit statistic is 0.91 which is above the threshold value of 0.90. In baseline comparisons, comparative fit index (CFI) is used to calculate improvement over competing models and having value of 0.96 suggest good-fit of the model. The incremental fit index (IFI) is 0.96 and normed fit index (NFI) used to estimate the model fitness based on small sample sizes (Bentler, 1990) is 0.91 imply a good fit to the data. The root mean square error approximation (RMSEA=0.05) within the acceptable range of less than or equal to 0.08. The goodness of fit statistics of the structural model are within the permissible limit suggests the suitability of the model where parameters are estimated and interpreted readily, even under the limitation of a small sample size (Bentler, 1990).

Table 3
Fit statistics of structural model

Model Name	*Chi Square*	*DoF*	*(χ2)/f*	*GFI*	*NFI*	*CFI*	*IFI*	*RMSEA*
Model	277.36	161	1.72	0.91	0.91	0.96	0.96	0.05

Based on R-squared and estimated path coefficients for the structural model, entrepreneurial commitment and organizational sustainability constructs (EC, ES, EnS and SS) have shown significant impact on business performance (BP). Table 4 represents the standardized estimates for each path (regression coefficients) and the corresponding p- value at 0.05 (level of significance). The result demonstrate that there is a significant relationship between entrepreneurial commitment (EC) and organizational sustainability [H_{1a}: economic sustainability (b=0.34, p< 0.01), H_{1b}: environmental sustainability (b= 0.24, p< 0.01) and H_{1c}: social sustainability (b= 0.32, p< 0.01),]. In addition to this, organizational sustainability [H_{2a}: ES (b= 0.38, p< 0.001), H_{2b}: EnS (b= 0.22, p< 0.01) and H_{2c}: SS (b=0.32, p<0.01)] have significant relationship with business performance. In particular, economic and social sustainability have higher impact as compared to environmental sustainability which implies that small firms are more inclined towards cost effective measures (as shown in Fig. 2). Moreover, entrepreneurial commitment (EC) have significant impact on overall business performance (H3: b=0.17, p<0.001). This validates that direct commitment always backed by profit orientation, profit satisfaction.

4.3. Standardized Direct and Indirect (Mediation) Effects

The mediation effect of organizational sustainability on entrepreneurial commitment and business performance is also tested. The direct effect of entrepreneurial commitment on business performance is (0.17). The indirect effect

Table 4
Path Analysis and standardized regression estimates

Hypothesis	*Path coefficients*	*P value*	*Supported (yes/No)*
H1a: Entrepreneurial commitment is positively related to economic sustainability.	0.34	0.001	Yes
H1b: Entrepreneurial commitment is positively related to environmental sustainability.	0.24	0.001	Yes
H1c: Entrepreneurial commitment is positively related to social sustainability.	0.32	0.001	Yes
H2a: Economic sustainability is positively related to the business performance.	0.38	0.001	Yes
H2b: Environmental sustainability is positively related to the business performance.	0.22	0.002	Yes
H2c: Social sustainability is positively related to the business performance.	0.32	0.001	Yes
H3: There is a significant positive relationship between entrepreneurial commitment and business performance.	0.17	0.006	Yes

Table 5
Mediation (Direct and Indirect) Effect of organizational sustainability

		Entrepreneurial Commitment	*Organizational sustainability*
Standardized direct Effects	Organizational sustainability	0.9	0
	Business Performance	0.17	0.92
Standardized Indirect Effects	Organizational sustainability	0	0
	Business Performance	0.828 (0.90*0.92)	0

of entrepreneurial commitment on business performance through organizational sustainability is 0.828. The indirect effect (0.828) for entrepreneurial commitment to business performance with the mediating variable of organizational sustainability is greater than the direct effect (0.17) for entrepreneurial commitment to business performance as shown in table 5.

All paths are significant and hypotheses are supported. Thus, similar to the previous studies, the relationship among entrepreneurial commitment, organizational sustainability and business performance is strongly supported and validate the magnitude of organizational sustainability as mediating variable (Vachon, S., & Klassen, R. D., 2008; Hubbard, R., 2009; Vinodh, S., & Joy, D., 2012).

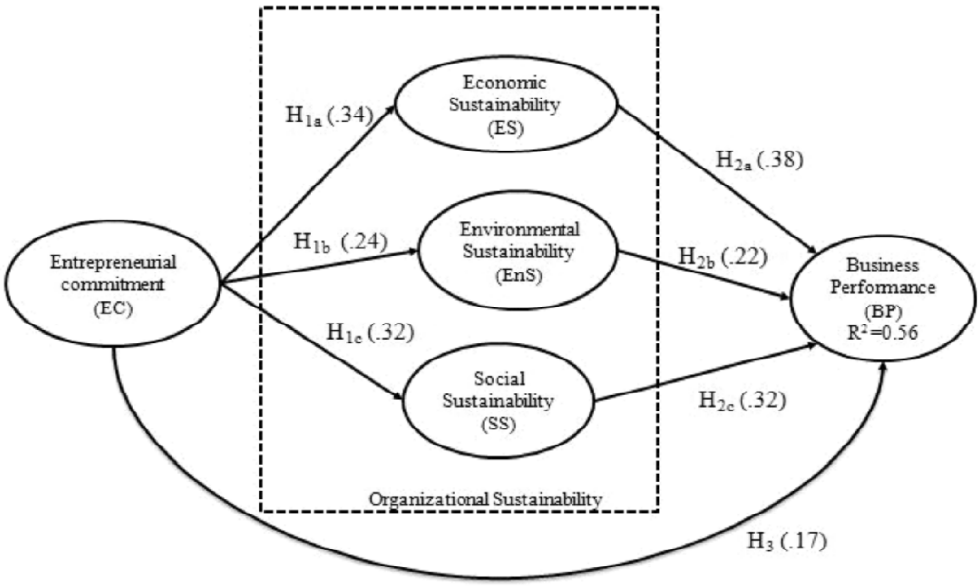

Figure 2: Structural Framework of organizational sustainability

5. CONCLUSION

The study provides significant insights regarding the deployment of organizational sustainability i.e. economic, environmental and social sustainability in manufacturing MSMEs in an emerging economy like India. Organizational sustainability strongly fosters business performance for 56 percent of variance (Figure 2). This demonstrates that strong commitment leads organizational sustainability and improved business performance. The study findings significantly support the role of organizational sustainability as intervening (mediating) variable (Table 5).

It is omnipresent that MSME primarily focuses on profit maximization by reducing the manufacturing cost, product modification, time management. Contrary to the conventional thought, the developed framework supported the viewpoint that small manufacturing firms (MSME) are viewing organizational sustainability as an opportunity to improve green consciousness, green market propositions, wealth maximization (Sadiq and khan 2006; klassen and Whybark, 1999; Montabon *et al.*, 2007). The result findings also emphasized that accrual of economic, environmental and social dimensions at the firm level produces synergy and motivation for the adoption of organizational sustainability among MSMEs (Abdulla A. S.M.H. 2006**)**. The result findings also support that economically successful, socially stabilized firms generate minimal environmental impacts. The selective and cost-effective approach toward environmental practices helps small

firms to incorporate organizational sustainability at operational level. The key environmental initiatives practicing by MSMEs are energy conservation and waste minimization. In addition, they have shown keen interest toward ISO 9001 and ISO 14001 certification for the better customer responses, creditors' support and to grab the international opportunities. The framework could help owners, practicing managers, environmentalists, policy makers to stress upon the best combination of sustainable business practices to combat environmental and social issues.

The key limitations of this survey research are sample size of the study. Future research should be conducted at large scale within and across the country in diverse sector with different size. Future studies could extend the research to other organizational sustainability practices such as reporting, green innovation, circular economy and explore in more detail about the moderating effect of demographic parameters on sustainability. Finally, we caution that our results do not allow an ultimate statement about the causality in the analyzed model relationships and may have limited generalizability due to geographical peculiarities of our sample.

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Appendix 1
Constructs and Items

Construct	*Measure Source*	*Items*
Entrepreneurial Commitment (EC)	Arend R J., 2012; Tang 2008	• Capability of managing human resource of firm (EC1) • Project management skills (EC2) • Very aggressive and intensely competitive (EC3) • Adaptable for eco-innovation and cost efficient technology (EC4) • Environmentally focused (EC5)
Economic Sustainability (ES)	Vinodh. S and Joy D., 2012; Torgusa N A *et al*,. 2013; Schoenhrr T., 2012	• Operational efficiency (ES1) • Reduction of overall cost i.e. production, raw material, labor etc of the firm (ES2) • Use of high quality raw materials (ES3)
Environmental sustainability (EnS)	Vinodh. S and Joy D., 2012; Torgusa N A *et al*. 2013; Schoenhrr T., 2012	• ISO certifications i.e. 9001, 14001 etc on quality and environmental aspects. (EnS1) • Reduce reuse and recycling solid and liquid wastes. (EnS2) • Decrease of air and noise pollution.(EnS3) • Energy conservation (EnS4)
Social Sustainability (SS)	Vinodh. S and Joy D., 2012; Torgusa N A *et al*. 2013	• Maintaining workplace safety and occupational health (SS1) • Training and development of employees (SS2) • Labor/Management relations (SS3) • Engage in philanthropic work (charity, donations) (SS4)
Business Performance (BP)	Hubbard R., 2009	• Financial Profitability (BP1) • Market Presence/Share (BP2) • Corporate governance (BP3) • Customer Satisfaction (BP4)