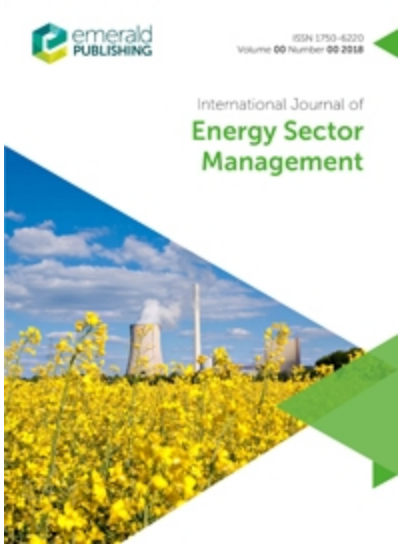

Impact of Institutional Pressures and Dynamic Capabilities on Sustainability Performance of Oil and Gas Sector

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Impact of Institutional Pressures and Dynamic Capabilities on Sustainability Performance of Oil and Gas Sector

Abstract

Purpose – Globally, the oil and gas industries are under pressure from numerous stakeholders for their sustainable operations against the backdrop of climate change, ecological damage, and social challenges. Drawing on the twin theoretical frameworks of the institutional theory and dynamic capability perspective, this study examines the impact of the institutional pressures and dynamic capabilities on the overall sustainability performance of oil and gas industry.

Design/methodology/approach – This study uses survey method to analyze the responses from 275 middle management professionals of oil and gas industry in India using partial least squares structural equation modelling (PLS-SEM). Further, focused group discussions with the select industry leaders validate the empirical findings of this study.

Findings – The research reveals that both institutional pressures and firm's dynamic capabilities have significant positive impact on its economic and environmental performance in oil and gas sector in India. However, they do not have any impact on social performance, unlike earlier findings.

Research limitations/implications – The main limitation of the study is generalizability of the findings given the cross-sectional design of the study.

Practical implications – Insights of this study will help regulators and policy makers in formulating effective regulatory and policy frameworks, besides creating awareness amongst the organizations to simultaneously focus on all the three aspects of sustainability performance.

Originality/value – The research has bearing on policy formulation and creating a regulatory ecosystem to ensure overall sustainability performance of oil and gas industry in India.

Keywords Institutional pressures; sustainability performance; dynamic capabilities; oil and gas industry; social responsibility

Paper type Empirical paper

1 Introduction

Organizations in recent times have been under heightened pressure to make their operations and practices environmentally responsible, thereby enhance social legitimacy to be perceived as socially responsible. For example, energy driver firms in the oil and gas sector struggle to maintain a triple bottom sustainability balance while meeting its escalating demand (Grasso, 2019). Consequently, such oil sector businesses face both internal and external pressures to adopt sustainability practices (Rentizelas et al., 2018) and are forced to align their business and operations with social, economic, and policy aspects of environmental management. On another dimension, such organizations have come under severe scrutiny from various stakeholders (da Silva & Gouveia, 2020) to ensure that their business operations are environmentally sustainable and socially acceptable beyond the minimum regulatory requirements (Nola, 1998). The leading organizations with global spread with immense influence and investment portfolio face even greater pressures to disclose their sustainability profile besides their regular annual reports (Manes-Rossi et al., 2018). The organizations have responded accordingly, and in recent times, sustainability has become the *'holy grail'* that shapes the contour of evolving organizational strategy (Amui et al., 2017). Multiple stakeholders, including regulators, community leaders, employees, practitioners, and even academic scholars, are curious and interested in understanding how organizations have dealt with such pressures to achieve their sustainable performances (Jain et al., 2018; Obeidat *et al.* 2020).

Caprar and Neville (2012) examined the organizational sustainability performance and found that by effectively utilizing resources, organizations tend to be competitive without compromising growth. Scholars invariably have relied on institutional theory, which posits that three external pressures – coercive, normative, and mimetic to examine how organizations adapt and reform itself to gain and retain its competitive advantage (DiMaggio & Powell, 1983; Scott, 1987). Institutional theory encompasses three kinds of pressures. Coercive pressure refers to factors (e.g., regulations) that legally compel an organization to behave in a certain way; the mimetic pressure includes changes when organizations model themselves after the practices of other companies in a similar domain (Scott, 1987); and the normative pressure captures changes introduced via professional association (DiMaggio and Powell 1983) and exchanges among similar organizations (Zeng *et al.* 2017). Institutional theory emerged as one of the most influential theoretical lenses used by scholars to explain overall sustainability perspectives (D'Andreamatteo et al., 2019) including waste reduction analysis (Simpson, 2012), change related to sustainability (Stål, 2015), sustainable supply chain in eco-parks (Zeng et al., 2017), manufacturing (Shubham et al., 2018) and other environmental practices. Scholars have also examined the impact of institutional pressures on the environmental performances in both developing and developed countries' contexts (Betts et al., 2018), manufacturing firms (Shubham et al., 2018) and biodiesel production (Ribeiro et al., 2018).

The resource-based view and dynamic capability perspectives, on the other hand, focus on organizations' internal factors and study how efficiently and effectively organizations could utilize their resources to sustain the competitive advantage (Barney, 1991; Kanninen, et al., 2017). These resources comprise tangible and intangible assets, including human resources, innovations, business strategies, past knowledge and learning, financial and physical resources (Barney, 1991; Helfat & Peteraf, 2009). The dynamic capabilities refer to how an organization capitalizes on the resources at its disposal to adapt to stakeholders' demand, exogenous

changes, and uncertainties to maintain competitive advantage (Akenroye et al., 2020; Ludwig & Pemberton, 2011). Organizations with dynamic capabilities have shown a long-term competitive advantage over rivals without such capabilities in terms of their sustainability performance (Bartocci et al., 2017). Researchers have examined how organizations used their dynamic capabilities to improve their sustainability performance and gain competitive advantages (Schrettle et al., 2014; Eikelenboom et al., 2019, & Khan, Daddi, & Iraldo, 2020).

Globally the oil and gas sector has been facing a catastrophic impact with the free fall of crude prices, dampening oil demand, and translating backward into the production supply chain during the Covid-19 pandemics. Evidence of an 18% to 25% decline in energy demand has been recorded during April 2020 for partial and complete lockdown countries (IEA, 2020).

Dynamic capabilities approach is important to oil and gas (OG) industry for several reasons. First, being highly regulated and controlled, the oil sector needs to secure various regulatory clearances to operate from the government (MoPNG, 2020). Second, the industries operate under a dynamic business environment and need to disclose their organizational approach through annual sustainability reports besides government compliance (ONGC, 2020). For example, the Indian national oil company (www.ongcindia.com) fulfils the organizational core objective and progressively maintains corporate sustainability by reducing carbon footprint and utilizing energy efficiency initiatives (Choudhary et al., 2017). Slower rates of growing conventional energy fuels compared during 2018 (5.3%) and a significant 83% of the imported crude contribution (Gupta & Dalei, 2020), though the increasing share of natural gas (6% to 17% by 2030), oil sector struggle with mature fields with declining hydrocarbon production (Choudhary & Srivastava, 2020). On the other side, India is joining hands to match the renewable energy (RE) basket to achieve a 175 GW installed capacity of RE by 2022 (Jain and Jain, 2020); 450 GW by 2030 and strives to achieve grid parity (Jain et al., 2021; MNRE, 2015). Such significant actions and derivatives are aligned with a target of reducing GHG

emission intensity of GDP by 33-35% below 2005 levels by 2030 (Choudhary et al., 2018). In addition, these organizations face demands from multiple stakeholder social groups to follow societal norms and maintaining social legitimacy. Therefore, all organizations in the OG industry in India have a similar level of external pressures and, to a certain extent, resource-base, which will allow isolating the role of dynamic capabilities from resources in responding to sustainability challenges.

Prior studies demonstrate several enablers for enhancing sustainability performance of OG sector. These include sustainable project design and management (Thuyet et al. 2007; Sweis et al. 2018; Dey 2012), sustainable procurement (Ekiugbo and Papanagnou, 2017; Al Hashmi et al. 2020), sustainable operations (Dey 2004; Ahmad et al. 2016). Additionally, impact of institutional pressures on sustainable performance in OG sector (George et al. 2016), and impact of dynamic capability on sustainable performance using performance analysis (Hasheminasab et al. 2018; Rentizelas et al. 2020) have also been studied extensively. Unfortunately, however, studies on combined impact of both institutional pressure and dynamic capability on sustainability performance in oil and gas industry are scant. Examining sustainability performance from both institutional and dynamic capabilities perspectives will offer a holistic and comprehensive insights into the phenomenon.

This study bridges these knowledge gaps by examining the twin influences of institutional pressure and dynamic capability to achieve sustainability performance in the oil and gas sector in India. Three research questions (RQs) are:

RQ1: Do institutional pressures impact organizations in achieving sustainability performance?

RQ2: Does dynamic capability of an organization influence organizations to achieve sustainability performance?

RQ3: Does dynamic capability of an organization mediate the relationship between institutional pressures and sustainability performance of the organization?

The paper is organized in seven sections. In Section 2, a theoretical framework is conceptualized by to examine the impact of institutional pressures and mediated role of dynamic capabilities on sustainability performances of organizations. Based on the literature review and guided by theoretical framework, nine hypotheses are proposed for investigation. In Section 3, the conceptual framework is presented that depicts the hypothesized relationships between institutional pressures, sustainability performance, and dynamic capabilities. Section 4 explains the data collection method and discusses the statistical methods adopted for analyzing the data. Section 5 presents the results. Section 6 compares the findings with the existing literature and discusses the theoretical and practical implications of the work. The final section discusses the limitations of this study and suggests themes for future research.

2 Theoretical Framework

The theoretical framework of this work was grounded in institutional theory and dynamic capability perspectives. The external pressures (e.g., coercive, mimetic, and normative pressures) play an essential role in governing the environmental and social performance of the OG production and distribution supply chain. The OG supply chain experiences severe risks of environmental contamination and social conflicts resulting from oil spills, methane leaks, groundwater contamination in fracking, oil spills, and occupational health hazards, which harm economies of affected areas (O'Rourke & Connolly, 2003). The organizations operating in the OG sector need to comply with stringent environmental and safety regulations (Silvestre et al., 2017; Jain et al., 2020).

The resource-based view and dynamic capability perspectives focus on the internal ability and capacity of firms to adapt to exogenous forces to directly or indirectly (through mediating

the relationship between the external pressures and performance) improve the sustainability performance of a firm (Delmas & Toffel, 2004; Lin & Wu, 2014). Most firms have basic ordinary, or 'first-order,' conducting routine and administrative governance (Dangelico et al., 2017; Teece, 2018). Dynamic, or 'second-order,' capabilities involve adapting and modifying the companies' existing ordinary capabilities and creating new capabilities to identify new opportunities and effectively exploit them for the organization's prosperity (Dangelico et al., 2017; Teece, 2018). From a dynamic capability perspective, organizations need to continuously integrate, learn, and reconfigure their resources and competencies in response to changing business and economic contexts (de Moura & Saroli, 2020; Teece et al., 1997). Since OG companies experience environmental and health risks in addition to regulatory risks, the companies must develop "a comprehensive, systemic, cultural and strategic capability" around sustainability for gaining long-term competitive advantage (Shuen, Feiler, & Teece, 2014). OG firms with dynamic capabilities are likely to respond effectively to external forces to build and renew the resources at their disposal to innovate and achieve greater balance among the three dimensions of sustainability (Garcia, Lessard, & Singh, 2014; Teece, 2018).

3 Hypothesis Development

A firm's sustainability performance is collectively governed by the firm's performance on social, environmental, and economic dimensions. The economic outcome refers to the net financial gain for the company. It is determined by increased revenues from more sales (Dangelico et al., 2017), and reduced overall operation and production costs due to more significant resource savings and lower regulatory penalties (Sang, Jin, Donghyun, & Yonghwi, 2013; Wijethilake, 2017). Since large manufacturing organizations fall under the government's control (Vikas and Rohit, 2019) and the prices of their products are uniform (Pal and Mitra, 2016), it is reasonable to expect that sustainability strategies would have limited impacts on direct revenues (Vikas and Rohit, 2019). So, in the present study, the economic performance

was measured through the impact on internal cost parameters. Environmental savings pertains to lower resource use, waste generation, and other emissions at the firm level (Dangelico et al., 2017).

Large manufacturing organizations in some industries contribute to environmental pollutions operate under stricter institutional pressures to make their operations environmentally sustainable by balancing environmental, social, and economic goals (Saidani et al., 2019). Their operations are getting more regulated, audited, and controlled. Academic scholars are divided over whether institutional pressures contribute to sustainability performance. For instance, the findings of a few studies have indicated that institutional pressures may not affect sustainability performance (Biong and Silkoset 2010 ; Zeng *et al.* 2017) of firms. Nygaard and Biong (2010) found that coercive pressures do not affect the performance of firms. Wei et al. (2015) also found that normative pressures have no significant influence on sustainability performance in large manufacturing companies in China. They further found that the government continuously changes environmental policies at the national level, and local government is interested in economic benefits (e.g., taxation); hence manufacturing firms delay the environmental strategies.

Social performance, though a salient vector of sustainable performance, is often not given due attention by academic scholars (Yawar and Seuring, 2017; Zimmer et al., 2016) and specifically in developing country contexts (Mani et al., 2016; Zorzini et al., 2015). It includes organizations' behavior towards its workforce as human beings, focusing on employment practices and employee health and safety besides organizational responsibility towards its external stakeholders, including local communities, contractors, and other stakeholders (Winter and Lash, 2016). The social performance in this study is operationalized in terms of organizations' responsibilities towards local communities' health and safety, besides including informal dialogue to understand their needs.

Organizations, through various means, including the introduction of new technology, implementation of best industry practices, attempt to balance between the need to comply with institutional pressures and the need to respond to environmental demands (D'Andreamatteo et al., 2019). This is an ongoing process of organizations attempting to develop a dynamic capability to deal with institutional pressures and competing demands from various stakeholders concerning sustainability performances. Thus, it is worthwhile to investigate the role of institutional pressures on sustainability performance. Hence, the following hypothesis is proposed:

H1: Institutional pressures will positively influence economic performance

H2: Institutional pressures will positively influence environmental performance

H3: Institutional pressures will positively influence social performance

Firms associated with the same business sector adopt different strategies and reach different success levels even subject to the same external pressures and because several organizational characteristics affect how the changes induced by the external pressures are implemented (Delmas & Toffel, 2004). The internal factors include the size of a firm, managerial experience, environmental management system, green supply chain management system, historical practices, and proactive leadership (Hong, Zhang, & Ding, 2018; Wijethilake, 2017). These internal qualities of a firm are collectively referred to as the dynamic capabilities of the firm (Hong et al., 2018; Teece et al., 1997), and they enhance the firm's ability to make decisions, solve problems, identify opportunities and as well as threats, and modify existing resources to overcome such challenges (Akenroye et al., 2020; Barreto, 2009). Thus, dynamic capabilities are essential for organizations to compete and could enable OG firms to develop and deploy organizational competencies to stay competitive.

In the present study, the dynamic capabilities of an organization consisted of three encompassing concepts – integrating, learning, and reconfiguring capability (Lin & Wu, 2014;

Zhou et al., 2018) – which researchers have used to assess the success of the organization in driving sustainability-based innovations (Dangelico et al., 2017). The integrating capability referred to the ability of an organization to efficiently and effectively incorporate best industrial practices, competitive technologies, and its own historical experiences in developing new products or processes (King & Tucci, 2002; Lin & Wu, 2014). The learning component described the ability to develop learning mechanisms and platforms based on knowledge exchange with internal and external entities (Lin & Wu, 2014; Zhou et al., 2018). The reconfiguring capability emphasized monitoring market, technology, and industry trends and promptly transforming resources and existing practices accordingly to stay competitive (Lin & Wu, 2014; Teece et al., 1997).

Furthermore, dynamic capabilities act as an internal force that reinforces the initial momentum for businesses to enhance those capabilities and incorporate even more sustainable practices (Delmas & Toffel, 2004; Sang et al., 2013). For instance, organizations with dynamic capabilities such as environmental management systems are strategically advantageous to make their operations environmentally sustainable (Zhu et al., 2013). Dynamic capabilities positively influence the performance of the market of eco-friendly products (Dangelico et al., 2017), corporate and social sustainability (Wijethilake, 2017), environmental sustainability (Hong et al., 2018), and financial performance (Feng and Wang, 2016). These internal drivers encourage managers to implement reforms to improve efficiency, become early adopters, refine reputation, and make the firms perform better even in the absence of external forces (Sang et al., 2013). De Moura and Saroli (2020) found that external pressure could lead to generation of dynamic capabilities in SME sector. Thus, firms could take advantage of dynamic capabilities even when no external demands exist to improve sustainability performance. Based on such assertions, the following hypothesis was proposed:

H4: The dynamic capabilities will positively influence the economic performance

H5: The dynamic capabilities will positively influence the environmental performance

H6: The dynamic capabilities will positively influence the social performance

The response to institutional pressures varies across organizations. Some organizations reconfigure their organizational capabilities to deal with institutional and other external pressures. Some other organizations may decide otherwise, as indicated by a few studies, which have revealed that external factors hardly contribute to the acquisition of dynamic capabilities (e.g., Dangelico et al. 2017, Hong et al., 2018). Firms may not develop dynamic capabilities without particular exigencies threatening their competitive advantage and long-term survival. Well-established companies develop certain 'inertia' and 'routinization' of their activities that prevent or at least delay transformational changes (King and Tucci 2002, Larsen and Lomi 2002). The pressures from external stakeholders, such as communities, non-governmental organizations, industry associations, and regulators, help firms manage specific liabilities in the present and develop dynamic capabilities allowing the firms to address any sustainability issues that have not yet been encountered. For instance, companies may initially adopt or develop green supply chain management strategies and environmental management systems (e.g., ISO 14000 standards) to address specific sustainability threats highlighted by external agents (Zhu et al. 2013, Chaminda et al., 2017). Nevertheless, once an effective environmental management system has been developed, it can help the firms mitigate a wide range of environmental and social impacts, including those for which no exigencies exist, but could arise in the future (Delmas and Toffel 2004, Sang et al. 2013). Researchers argued that external pressures introduce flexibility in how firms manage their supply chain, which allows them to quickly respond to market changes (Sang et al., 2013).

Dynamic capabilities may not constantly directly improve a firm's competitiveness but rather mediate the relationship between the driving factors and their impact on the firm's performance. Delmas and Toffel (2004) asserted that the firm's dynamic capabilities influenced

institutional pressures on its performance. Dangelico et al. (2017) explored how static and ordinary capabilities ('present' oriented capabilities) of an organization mediated the relationship between the dynamic capabilities ('future' oriented capability) and the output performance (p. 495). Lin and Wu (Lin & Wu, 2014) investigated how dynamic capabilities mediated the impact of a firm's resources and its financial performance. Hong et al. (Hong et al., 2018) found that dynamic capabilities influenced the impact of sustainability supply chain practices on a firm's performance. Shibin et al., (2020) established the mediating effect of top management's belief system, experience, and participation – components of dynamic capability – between external pressures and small and medium-sized enterprises' sustainability performance in India. Because of the above, the following hypothesis was proposed for investigation:

H7: Dynamic capabilities will positively mediate the relationship institutional pressures and economic performance

H8: Dynamic capabilities will positively mediate the relationship institutional pressures and environmental performance

H9: Dynamic capabilities will positively mediate the relationship institutional pressures and social performance

Therefore, it is outlined that the dynamic capabilities of an organization are likely to mediate the relationship between institutional pressures and sustainability performance. The theoretical framework proposed in this study is shown in Figure 1.

[Insert Figure 1 here]

4 Research Methodology

4.1 Measures

The measures used in this study were adapted from the extant literature. Institutional pressures were measured using coercive, normative, and mimetic pressures with a 4-item scale

adapted (Colwell & Joshi, 2013; Dubey et al., 2017). Economic performance was measured using a 4-item scale adapted from (Dubey et al., 2017; Wijethilake, 2017). The 4-item and 3-item scales were used to measure environmental and social performance (Wijethilake, 2017). Integrating, learning, and reconfiguring capabilities were measured using a 4-item scale adapted from (Lin & Wu, 2014; Zhou et al., 2018). The survey questionnaire was structured in two sections. Part one captured details related to the type of firm, age and size of the firm, work experience, and education of respondents. Part two captured main study items on a seven-point Likert scale ranging from strongly disagree to strongly agree.

The content validity of the survey was reviewed by six corporate executives from the field and seven academics working in the sustainability or supply chain management domain. Next, a pilot study was conducted, and 67 responses were collected. The composite reliability of all the variables was higher than 0.7. The results were shown to the experts, and after their recommendation, the primary study data collection was carried out. The detail of the items and constructs is shown in Appendix A.

4.2 Data Collection

The data were collected from the executives working in oil and gas sector firms listed on the Ministry of Petroleum and Natural Gas of India website through an online survey (Ministry of Petroleum & Natural Gas, n.d.). Further, organizations supporting these OG companies in supply chain management or sustainability were also included for data collection. The executives were informed about voluntary participation, strict confidentiality, and anonymity of the survey. Further, a cover letter that included details about the academic nature of the study was attached with the online questionnaire. In addition to an online survey, telephonic calls were also conducted to gather the responses. Five hundred eighty executives were approached, and 356 executives filled the survey. After removing the incomplete responses, a total of 275

valid responses were obtained, with an effective response rate of 47.41%. The sample descriptive is shown in Table 1 below:

[Insert Table 1 here]

4.3 Common Method Bias

Self-reported surveys are susceptible to common method bias. Common method bias was addressed using adequate precautions both prior to and post data collection. Reverse-coded items were included in the survey questionnaire; different anchors for different variables were deployed to reduce common method bias (Nederhof, 1985). Further, executives were informed that they may leave the survey at any stage of the process.

Harmon's single factor test and correlation marker variable technique were statistical approaches for addressing common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Factor analysis with no rotation resulted in 9 factors, and the highest variance of a factor was 35%; this validated Harmon's single factor test. A market variable unrelated to other variables had low correlations with all other variables, established correlation marker technique (Lindell & Whitney, 2001). Thus, we concluded that common method bias is less likely to affect our study.

4.4 Non-response Bias

Non-response bias was addressed following procedures suggested by Armstrong and Overton (Armstrong & Overton, 1977). First, the sample was divided into groups, namely the first quartile and last quartile, concerning eight measures of the study. Paired t-tests resulted in no significant differences between the groups concerning these measures. The last quartile denoted non-respondents while conducting paired t-test. Thus, we can conclude that this study is not vulnerable to non-response bias.

5 Data Analysis

5.1 Measurement Model Assessment

The partial least squares structural equation modelling (PLS-SEM) technique was used for the analysis. PLS-SEM poses fewer restrictions on data distribution and is suitable for exploratory studies with a complex model and small sample size. First, we analyzed the reliability and validity of the model, and then hypothesis testing was carried out using *Smartpls 3 software* (Ringle, Da Silva, & Bido, 2015).

Cronbach's alpha and composite reliability of all the variables were higher than the threshold level of 0.7, thus establishing the reliability of the study's variables. Table 2 showed that inter-construct correlations (refer values below the diagonal) were lower than the square root of the AVE values for all latent variables (Fornell & Larcker, 1981), thus establishing discriminant validity. Further, the HTMT criterion was also used to assess discriminant validity. Table 2 showed that all the HTMT ratios (refer values above diagonal) ranged between 0.177 to 0.749 and thus validates discriminant validity. Furthermore, the cross-loadings criterion all items' loadings were higher than their corresponding cross-loadings (Hair et al., 2017; Hair, Ringle, & Sarstedt, 2011), which further accounted for discriminant validity. The reliability of items was assessed using the cross-loadings (Hair et al., 2017, 2011), and all the item loadings were higher than the prescribed value (Nunnally, 1978) (refer to Table 3). Items with low loadings value were dropped, resulting in improved value of reliability and validity of those constructs.

[Insert Table 2 here]

[Insert Table 3 here]

5.2 Structural Model Assessment

Table 4 shows that the model obtained moderate explanatory (R^2) values and sufficient predictive relevance (Q^2) values for economic (R^2=0.488; Q^2=0.339) environment (R^2=0.488;

Q^2=0.350) and social performance (R^2=0.091; Q^2=0.061). Further, all the structural paths had medium and high effect size values (refer to Cohen's f^2 values).

[Insert Table 4 here]

The results showed that IP is positively associated with economic performance (β = 0.549, p=0.000) and environmental performance (β = 0.497, p=0.000), hence hypotheses H1 and H2 are accepted (refer Table 4). However, IP is not positively associated with and social performance (β = -0.157, p=0.036), indicating H3 is not accepted. Further, IP is negatively associated with social performance.

Dynamic capabilities have positively impact on economic performance (β = 0.240, p=0.000), and environmental performance (β = 0.230, p=0.000), indicating H4 and H5 are accepted. Again, dynamic capabilities do not have association with social performance (β = -0.022, p=0.789) performance, hence hypotheses, H6 is not accepted.

[Insert Figure 2 here]

Mediation testing was carried out using Preacher & Hayes (2008)'s approach. Preacher and Hayes (2008) bootstrapping mediation approach is a non-parametric test and does not require normality assumption. As per Preacher and Hayes (2008)'s recommendations, partial mediation exists if both direct and indirect effect are found significant, full mediation if direct effect is non-significant and indirect effect is significant and no mediation if both direct and indirect effects are non-significant or direct effect is significant and indirect effect is non-significant. Indirect effect is assessed using bias-corrected confidence intervals and it is significant when confidence intervals do not include zero (Preacher and Hayes, 2004). Table 5 shows that IP partially mediate through dynamic capabilities to economic (direct effect β = 0.423, p=0.000; indirect effect: β=0.103, p=0.001, LCI=0.050, UCI= 0.164), environmental (direct effect β = 0.362, p=0.000; indirect effect: β=0.097, p=0.001, LCI=0.042, UCI= 0.160),

indicating hypotheses, H7 and H8 are accepted. However, IP could not mediate through dynamic capabilities to social performance (direct effect β = 0.362, p=0.000; indirect effect: β=-0.010, p=0.793, LCI=-0.078, UCI= 0.060). Hence hypothesis H9 is not accepted.

[Insert Table 5 here]

6 Discussion

This section provides answers to the three RQs: impact of institutional pressures on sustainability performance of OG sector firms; impact of dynamic capabilities on sustainability performance and mediating role of dynamic capabilities between institutional pressures and sustainability performance of OG sector firms.

With regard to first research question, the findings indicated that institutional pressures significantly influence economic and environmental performance but not social performance. The results are consistent with the findings of earlier studies (Shibin et al. 2017; Dubey et al. 2015 and 2017; Khor et al. 2016; Zhu 2016; Seles et al. 2016; Rentizelas et al., 2018) which indicated that coercive pressures are not enough to develop social sustainability in organizations beyond the minimum requirements imposed if there are no self-driven initiatives within the organizations. This can be explained by the fact that neither the OG organizations are under any moral obligation to respond to the needs nor expectations of the community and the society at large, nor the non-performance of social objectives attract any penalty or affect social reputation. By implication, the need to enhance social performance rarely gets the desired attention of the top management. Narula et al. (2017) have also urged firms in the mining sector to be more proactive towards environmental and social issues; be more inclined to strengthen community relationships, and enhance their social performance. Corporate social responsibility is a vehicle through which organizations may serve the interests of the society by being more responsible and accountable for the impact of their activities on customers, employees, shareholders, communities, and the environment in all aspects of their operations

(Narula et al., 2017). The authors further suggest that firms should incorporate CSR strategies into their management policies and practices. The other recommendation offered by the authors is that firms should strengthen internal resources by embedding CSR practices in the organization's culture and broader strategy. There is a need to identify the needs of the neighbourhood communities and systematically address the same proactively.

With regard to second research question, the findings also indicated that dynamic capabilities significantly influence economic and environmental performance but not social performance. In this study, dynamic capabilities capture an organization's ability to reconfigure its operations and practices by integrating best industry practices and employing relevant technologies and learning and developing new capabilities through knowledge acquisition and learning. The empirical analysis confirms the proposed effect of dynamic capabilities, and findings are also consistent with previous studies on dynamic capabilities relating positively impacts upon economic performance (Altay *et al.* 2018; De Moura and Saroli, 2020), environmental performance (Esfahbodi *et al.* 2016; Hong *et al.* 2018; Vachon and Klassen 2008). Further, the findings reveal that dynamic capabilities do not have any impact on social performance. This contrasts with the previous literature (Hong et al. 2018). The likely reasons could be that organizations seem to be developing and leveraging dynamic capabilities to enhance economic and environmental performance, not social performance.

Finally, with regard to third research question, the findings indicated that the institutional pressures mediated through dynamic capabilities to economic and environmental performance but not social performance. Federal governments have been increasingly viewing Corporate Social Responsibility initiatives as an essential way to mitigate the social problems and environmental damage they are responsible for (Midttun, 2005; Narula et al., 2017). The introduction of mandatory CSR standards by the Government of India indicates their intention to be a source of crucial institutional pressure (Jain et al., 2017). Jha and Aggarwal (2019) have

found that the influence of government, media pressure, peer pressure, and the local community on CSR implementation is relevant in the Indian context.

Moreover, organizations respond to institutional pressures in five different ways, as suggested by Oliver (1991)'s strategic response framework based on institutional and resource theoretical dependence lenses. Organizations, guided by their self-interest, tend to adopt various response strategies ranging from acquiescence, compromise, avoidance, defiance, and manipulation. Organizations may not conform or acquiesce to institutional pressures if they do not see any economic gain and find them irrational. Organizations in OG industry do not seem to find the need to attend to social performance compelling enough in their contributions to their organizational economic performances. Hence, organizations do not seem to adopt any of these response strategies to deal with the pressures to achieve sustainable performances, especially social performance.

6.1 Validation of the Findings through Focus Group Discussion (FGD)

A focus group discussion was conducted with 16 select industry experts to deliberate on the findings and check their validity. The executives were assured of anonymity and confidentiality, and the participation was voluntary. The purpose of the focus was also explained to them before the discussion. Refer Appendix B for the FGD details. The industry experts agree with the study's findings that organizations generally do not focus on social performances as it was neither legally mandatory nor the social reputations were affected if they do not attend to social performances mandates. They also agree that Corporate social responsibility (CSR) should be an ideal route to improve social performances; organizations generally comply with regulations to set aside the required revenue for CSR activities. They believe that organizations tend to utilize CSR funds, guided by non-regulatory pressures, including political pressures on politically relevant instead of socially relevant projects.

Though OG firms conduct various CSR activities, however, firms need to go beyond the minimum CSR to become socially responsive organizations.

6.3 Theoretical Contributions

This study has made a few significant theoretical contributions. First, it establishes the saliency of the dynamic organizational capability to achieve economic and environmental dimensions of sustainable performances. The study also spots a potential knowledge gap in terms of why institutional pressures and dynamic capability do not substantially influence social aspects of sustainable performance. There is a need to develop a more comprehensive and definite understanding of underlying rationale to develop knowledge on how to influence organizations to attend to social aspects of sustainable performances. These insights will be of immense relevance to organizations striving for sustainability in their performance, policymakers, and regulators who have been trying to create an ecosystem that will foster sustainable performances.

Secondly, the study empirically validates the conceptual framework between the institutional pressures, dynamic capability, and sustainable performances (Refer to Figure 1 for the conceptual framework). This empirically validated framework may guide leaders in organizations to develop an action plan for achieving sustainable performances.

Thirdly, this study has operationalized sustainable performance by explicitly measuring all three dimensions: social, economic, and environmental. Insights derived from the study are more specific and direct as the study examines the independent impact each of the three sub-constructs. No performance is genuinely sustainable if organizations fail to address the social dimension of sustainability. From such a perspective, the study is significant and timely.

6.3 Implications for Organizations and Policy Makers

Organizational leaders and policymakers may find the results of this study insightful. First, the framework (Figure 1) and the questionnaire (Appendix A) jointly provide necessary guidance for diagnosing and enhancing the dynamic capabilities of an organization to achieve sustainable organizational performance in the OG industry. In time to come, various stakeholders will demand sustainable performances from the organizations. Secondly, the study establishes the saliency of dynamic capability in achieving economic and environmental performances vital to sustainability. Hence, organizational leaders should take requisite steps to equip their organizations with dynamic capability by emphasizing the importance of "acquiring and assimilating new insights" and making them part of organizational culture and reconfiguring organizational systems and processes by embedding these insights.

A cross-national comparative study conducted by Tolmie et al. (2020) examined the influence of institutional pressures on CSR in multi-national corporations (MNCs) & reveal that not only stakeholders but also espoused values of informal (socio-cultural) institutions of the business context influence how the nature of CSR activities of MNCs. Hence, there is a need to examine the role of informal institutions in influencing organizations to attach priority to social aspects of sustainability. Tolmie et al. (2020) have found the importance of managers' role in leveraging informal institutions' power to address both economic and social performances.

The findings of this study also have implications for policy formulation. In the current context, by making CSR mandatory, the Government of India has been putting regulatory pressures to make organizations attend to social performance. Organizations tend to comply with what is mandated by the legislation. They tend to perform as minimum as mandated by the regulators at times without addressing the social needs of local communities.

Hence, regulators and policymakers should create awareness amongst the organizations to focus on all three aspects of sustainability performance simultaneously. It is possible that organizations may not be interested in focusing on social performance as it may not make economic sense. This can be achieved by introducing some incentive measures that encourage organizations to focus their attention on social performance. Alternatively, necessary regulations and policy guidelines may be introduced to ensure social performance in addition to economic and environmental performances. Industry experts during deliberation expressed the need to nudge organizations to pay due to attention to social performances by making incentives and benefits contingent upon the achievement of espoused social performance targets. Secondly, industry bodies should create peer pressure to ensure organizations take social performances in right earnest. They need to recognize social performance by ranking organizations according to social performances and recognize the leader as the most socially responsible organization. Thirdly, the role of top management and leadership is salient in this effort. Without their support and involvement, it is impossible to make organizations focus on social performances. Hence, organizations' top leadership should be encouraged to pay serious attention to social performances that go beyond CSR mandate. Singh and Agarwal (2014, p. 83) have emphasized for government and organization collaboration. Policymakers need to reassess policies and regulations to accommodate practitioners' views and should take into cognizance of the fact of different degree of embeddedness of industry in the local community before drafting legal provisions on CSR spending.

6.4 Limitations and Future Research

First, scholars need to focus their attention on social performances. Why organizations do not pay attention to social performances needs to be understood. Such an understanding will help policymakers and regulators to promulgate appropriate regulations and guidelines, which may push organizations to focus on all three components of sustainable performances. More

empirical studies must be conducted in different industries and geographies to conclusively understand the impact of institutional pressures on social, economic, and environmental performances. Secondly, although this study provides relevant and interesting insights about the interplay of institutional factors, dynamic capabilities, and sustainability performance, more studies from multiple theoretical and disciplinary perspectives need to be conducted to broaden the understanding of factors that influence firms' social sustainability performance, particularly social performance. Thirdly, given that the role of top management is vital in deciding response strategy, there is a need to examine the role of top management and managerial attitude toward sustainability need to be examined to have a comprehensive understanding of the process and outcome of how organizations respond to institutional pressures. Finally, the study is situated in the Indian OG sector. Hence, one should be cautious in generalizing the findings to other geographies and industry sectors. There is a need to extend this study to other industries and other developing country contexts to have a comprehensive understanding to draw any definite inferences about the relationship between institutional pressures, dynamic organizational capability, and sustainable performance.

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Appendix A: Measurement Items

Construct	Item code	Items Details
Coercive pressures	C1	Firms in our industry that do not meet the legislated standards for pollution control face a significant thread for legal prosecution
	C2	Firms in our industry are aware of the fines and penalties associated with environmentally irresponsible Behaviour
	C3	If the firms in our industry commit an environmental or people related infraction, the consequence would include negative reports by industry/stock market analysts
	C4*#	There are negative consequences for firms that fail to comply with the central and state regulations related to environment or people
Normative pressures	N1	Our industry has trade associations (or professional associations) that encourage firms within the industry to become more environmentally responsible
	N2	Our industry expects all firms in the industry to be environmentally and socially responsible
	N3	Being environmentally and socially responsible is a requirement for firms to be part of this industry
Mimetic pressures	M1	The leading firms in our industry set an example for environmentally and socially responsible conduct
	M2	The leading firms in our industry are known for their practices that promote environmental preservation and take care of peoples' needs
	M3	The leading firms in our industry have worked on ways to reduce their impact on environment
	M4	The leading firms in our industry have worked on ways to address climate change issues
Economic performance	EcoP1	Our firm has decreased of cost for materials purchasing
	EcoP2	Our firm has decreased cost for energy consumption
	EcoP3#	Our firm has not decreased fee for waste treatment
	EcoP4	Our firm has decreased fee for waste discharge
	EcoP5*	Our firm has decreased fine for environmental accidents
Environmental performance	EnvP1	Our firm has reduced air emission in the last three years
	EnvP2	Our firm has reduced waste water in the last three years
	EnvP3	Our firm has reduced solid waste in the last three years
	EnvP4	Our firm has reduced consumption of hazardous/harmful/toxic materials in the last three years

	EnvP5*	Our firm has improved its environmental situation
Social performance	SoP1	Our firm considered interests of stakeholders in investments by creating a formal dialogue
	SoP2	Our firm improved employee or community health and safety
	SoP3*	Our firm protected claims and rights of local community
	SoP4	Our firm showed concern for the visual aspects of the firm's facilities and operations
	SoP5*	Our firm recognized and acted on the need to fund local community initiatives
Integrating capability	IC1	Our firm collects information related to customers and potential market exploration
	IC2	Our firm deploys specialized organization to collect industry information for managerial decision
	IC3#*	Our firm do not integrate latest technologies in the industry to develop new products
	IC4	Our firm records and integrates historical methods and experiences in handling firm issues
Learning capability	LC1	Our firm frequently anticipates industrial knowledge learning program.
	LC2*	Our firm frequently organizes internal educational training
	LC3	Our firm ensures knowledge sharing and learning groups establishment
	LC4	Our firm frequently conducts internal cross department learning program
Reconfiguring capability	RC1	Our firm has clear human resource re-allocation procedure
	RC2	Our firm rapidly response to market changes in the industry
	RC3	Our firm rapidly response to competitor's actions in the industry
	RC4#*	Our firm has inefficient and ineffective communication with cooperative firms in the industry

#reverse-coded item; * items dropped.

Appendix B: Focus Group Discussion Protocol

Number of participants in the group: 14

Number of discussion groups: 2

Duration: 1 hour 30 minutes

Number of questions posed: 2

Data collection: Recording and notes during the focused group discussion

Participants demographics:

	Frequency	Percentage
Gender		
Male	11	78.57
Female	3	21.43
Participant background		
Industry	8	57.14
Consultants	2	14.29
Academics	2	14.29
Policymakers	2	14.29
Participant work experience		
11-15 years	3	21.43
16-20 years	5	35.71
More than 20 years	6	42.86

Questions:

1. What are the internal and external factors that affect sustainability performance namely economic, environmental and social performance of OG sector firms?
2. What initiatives/strategies are adopted by OG sector firms to achieve sustainability performance?

Procedure:

Step 1

-Moderator introduces question 1 to the group

-Participants thought and expressed their views on an online google document

-Time: 15 minutes

Step 2

-Discussion was carried out on the question 1

-Time: 35 minutes

Step 3

-Moderator introduced question 2 to the group

-Discussion was carried out on the question 2

-Time: 35 minutes

Step 4

-Closing of the discussion

-Time: 5 minutes

Table 1: Sample Characteristics

		N	Percentage
Industry type			
	State owned	50	18.18
	Private	71	25.82
	Joint venture	79	28.73
	Foreign owned	75	27.27
Firm size			
	Less than 1000 employees	72	26.18
	1000 - 5000 employees	83	30.18
	5001 - 10000 employees	95	34.55
	More than 5000 employees	25	9.09
Education			
	Graduate	167	60.73
	Post-graduate	98	35.64
	PhD	10	3.64
Firm age			
	Less than 15 years	42	15.27
	More than 15 years	233	84.73
Executive experience			
	Less than 5 years	38	13.82
	5 - 10 years	80	29.09
	11 - 15 years	75	27.27
	More than 15 years	82	29.82

Table 2: Reliability and Validity

Variable	CA	CR	AVE	IP	DC	EcoP	EnvP	SoP
IP	0.890	0.910	0.503	**0.709**[#1]	0.530[#3]	0.749	0.717	0.260
DC	0.877	0.901	0.508	0.495[#2]	**0.713**	0.541	0.569	0.178
EcoP	0.866	0.910	0.717	0.667	0.511	**0.847**	0.687	0.181
EnvP	0.883	0.919	0.741	0.648	0.522	0.608	**0.861**	0.177
SoP	0.823	0.894	0.739	-0.223	-0.170	-0.161	-0.157	**0.860**

Note - IP: institutional pressures; DC: dynamic capabilities; EcoP: economic performance; EnvP: environmental performance; SoP: social performance; CA: Cronbach's alpha; CR: composite reliability; AVE: average variance extracted; [#1]bold diagonal values: square root of AVE; [#2]values below diagonal: inter-construct correlations; [#3]values above diagonal: HTMT values.

Table 3: Cross loadings

Items	IP	DC	EcoP	EnvP	SoP
CP1	**0.724**	0.277	0.553	0.535	-0.113
CP2	**0.729**	0.324	0.528	0.523	-0.150
CP3	**0.744**	0.336	0.559	0.549	-0.117
MP1	**0.728**	0.440	0.443	0.432	-0.253
MP2	**0.659**	0.352	0.347	0.391	-0.140
MP3	**0.743**	0.396	0.410	0.416	-0.165
MP4	**0.649**	0.340	0.454	0.439	-0.135
NP1	**0.753**	0.301	0.532	0.537	-0.117
NP2	**0.728**	0.392	0.478	0.411	-0.218
NP3	**0.623**	0.380	0.377	0.310	-0.188
IC1	0.447	**0.611**	0.439	0.390	-0.252
IC2	0.307	**0.794**	0.273	0.348	-0.102
IC4	0.229	**0.752**	0.247	0.288	-0.050
LC1	0.271	**0.788**	0.263	0.300	-0.059
LC3	0.277	**0.825**	0.277	0.368	-0.082
LC4	0.273	**0.775**	0.214	0.320	-0.087
RC1	0.328	**0.610**	0.369	0.313	-0.100
RC2	0.446	**0.628**	0.488	0.460	-0.107
RC3	0.393	**0.579**	0.474	0.402	-0.142
EcoP1	0.581	0.524	**0.883**	0.604	-0.190
EcoP2	0.526	0.376	**0.844**	0.504	-0.125
EcoP3	0.640	0.460	**0.910**	0.544	-0.173
Eco4	0.499	0.352	**0.739**	0.389	-0.034
EnvP1	0.633	0.402	0.594	**0.859**	-0.075
EnvP2	0.566	0.472	0.496	**0.875**	-0.157
EnvP3	0.448	0.463	0.443	**0.827**	-0.133
EnvP4	0.566	0.468	0.549	**0.880**	-0.179
SoP1	-0.227	-0.209	-0.191	-0.197	**0.923**
SoP2	-0.186	-0.166	-0.149	-0.116	**0.820**
SoP4	-0.154	-0.042	-0.058	-0.073	**0.832**

Table 4: Structural Path Analysis

Hypothesis	Path	Path coefficient	UCL	LCL	Decision
H1	IP -> EcoP	0.549***	0.439	0.652	Accepted
H2	IP -> EnvP	0.497***	0.382	0.611	Accepted
H3	IP -> SoP	-0.157*	-0.301	-0.009	Not accepted

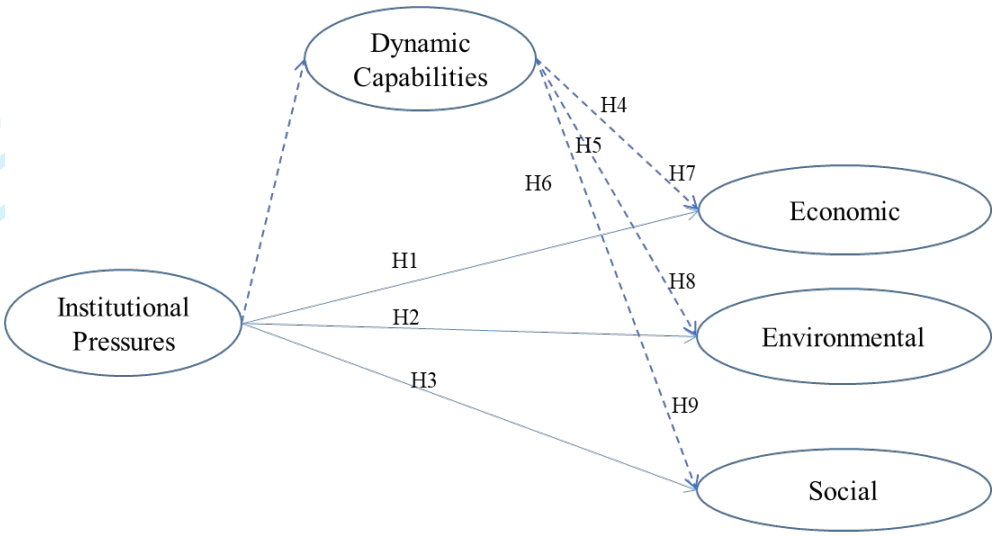
H4	DC -> EcoP	0.240***	0.130	0.349	Accepted
H5	DC -> EnvP	0.230***	0.102	0.347	Accepted
H6	DC -> SoP	-0.022	-0.178	0.132	Not accepted

*p<0.05, **p<0.01, ***p<0.001

Table 5: Mediation Analysis

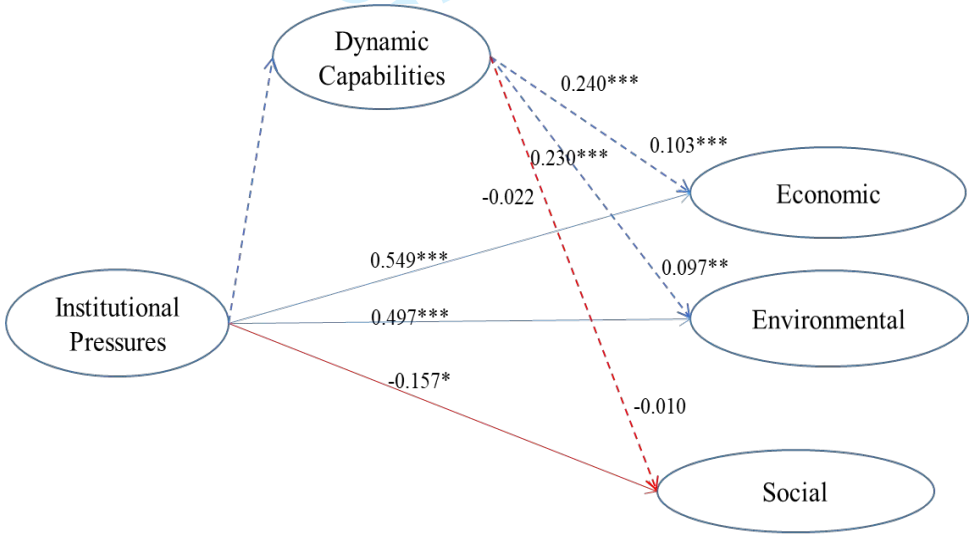
Hypothesis	Indirect Path	Sample Mean (M)	UCL	LCL	Decision
H7	IP -> DC -> EcoP	0.103***	0.050	0.164	Accepted
H8	IP -> DC -> EnvP	0.097**	0.042	0.160	Accepted
H9	IP -> DC -> SoP	-0.010	-0.078	0.060	Not accepted

*p<0.05, **p<0.01, ***p<0.001



H7-H9: Indirect path (mediation hypotheses)

Figure 1: Conceptual Framework



H7-H9: Indirect path (mediation hypotheses)

Figure 2: Results