



# Environment Practices Mediating the Environmental Compliance and firm Performance: An Institutional Theory Perspective from Emerging Economies

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**Abstract** Coercive pressure has forced firms to take up environmental measures in the last two decades in emerging economies. Under normative pressure, large firms with farsightedness take up the environmental practices as industry leaders. In a little mature emerging economy, such as India, where triple bottom line awareness is growing, the government facilitates the firms to operate in an environment-friendly ecosystem. We investigate how do environmental compliance and environmental practices influence the overall firm performance? The performance was measured in terms of financial, customer, internal business process, and learning and growth performance. A survey instrument was designed using well-established scales and administered to the middle to top-level corporate management executives to gather 240 data from the Indian firms. A rigorous statistical validity, diagnostics, and SEM were used to test the hypotheses. The environmental practices showed a full mediation effect on the effect of environmental compliance on performance. The examination of mediation relationships in an environmental context is limited in the reported literature. This paper is among the initial works that deal with complicated mediation relationships drawn from institutional theory propositions. The study established and argued that environmental practices' ecosystem would turn firms towards voluntary environmental compliance and eventually enjoy the long-term performance.

**Keywords** Environmental compliance · Environmental practices · Firm performance · Institutional theory · Structural equation modelling

## Introduction

The institutionalization of a phenomenon in an industry is described as an outcome of isomorphic change that happens due to various external pressures (DiMaggio & Powell, 1983) (coercive pressure due to government policies, mimetic pressures due to business uncertainties, normative pressure due to shared vision to the longterm benefits). The study investigates the causality of environmental compliance and environmental practices on the firm performance under institutional theory lenses.

PiaHeidenmark Cook (An inspirational Nordic woman in CSR), Chief sustainability officer at IngkaGroup (The largest IKEA franchisee with 377 stores in 30 markets), claims that change management in organizations is the key issue.<sup>1</sup> Top leadership needs to understand that the energy-efficient solutions and management of waste help reduce operational cost. Desai and Sahu (2008) reported the use of institutional theory in customer relationship management (CRM) and change management. They questioned the fundamental assumptions of institutionalizing a change in developed economies in the context of CRM. They argued that the literature from developed countries assumes a strong infrastructure and ignores the interplay of the key players of the local institutions. Change management is argued to be affected by two prime factors: infrastructure and the vicinity's institutional environment. Sheth and Sharma (2005) described the key basic infrastructural

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elements as telecommunication, data networks, roads, water, and electricity. The vicinity's institutional environment may include the central government regulations, state regulations, local industrial forums, formal and semi-formal policies and practices, and general understanding among the key players in the vicinity (North, 1990). This institutional environment may also include the practices adopted as an outcome of the scholarly debates in the academic conferences, industrial events, social forums, practices lead by the market leaders in the industrial setups, etc.

We try to hypothesize how government compliance leads to the change in market players' behaviour, helping the enterprises improve their performance. This performance improvement has usually resulted from the savings generated out of the legitimacy pressure and penalties. When government compliance is disobeyed, enterprises need to face heavy environmental penalties, get into litigations, disputes, loss of brand equity, and financial losses regarding legal cost and business value.

We also hypothesize how the giant corporates, enterprises take up environmental practices, and SMEs convert into long-term business value, customer loyalty, supplier loyalty, and overall supply chain benefits. The adoption of environmental practices leads to firm performance in most organizations, which has now been indisputably recognized by most organizations worldwide (Gupta & Gupta, 2020a). Under the triple bottom line concepts, the environmental performance receives equal place as the economic performance and 2015 social performance (Anbarasan & Sushil, 2018).

The legitimacy & institutional pressure, and firms' environmental awareness have been studied and reported in recent literature. The various constructs studied are TQM, SRM, and environmental performance (Dubey et al., 2015; Singh & Sushil, 2017); sustainability benchmarking (Dubey et al., 2017); HRM practice, green organization culture, and environmental performance (Roscoe et al., 2019); environmental regulations, firm size, country's competitiveness, and degree of firms internationalization (Borsatto & Amui, 2019).

There is a series of recently reported literature on the green supply chain (Mani et al., 2016; Shibin et al., 2016; Zahraee et al., 2018; Marić & Opazo-Basáez, 2019; Bahrani & Arshadi Khamseh, 2020). A few other recent researches have focused on green supply chain and institutional theory perspective in emerging economies in general and India in particular (Dubey et al., 2015, 2017; Singla & Singh, 2018; Borsatto & Amui, 2019; Gulati et al. 2020). We reviewed the literature in immediate relevance to our research in greater detail. In research on green supply chains, Dubey et al. (2015) studied the moderating role of institutional pressures on integrating supplier relationship management, TQM, and environmental performance. They emphasized the role of

leadership on operational performance and thereby the environmental performance. The focus of the study was limited to the rubber industry in India. Authors suggested that future research may include the financial and social dimensions and environmental performance, which may bring rich findings further. In our study, financial performance was our first-order construct, and the overall performance was the second-order construct used as a dependent variable. Also, our study has a broader coverage of manufacturing and services industries in the Indian context.

Dubey et al. (2017), in a recent study, reported that how firms are forced to take up the performance management systems under institutional pressures, which is moderated by the organization culture. The focus of this study was primarily on sustainability benchmarking literature. The authors recommended further research directions to explore beyond institutional theory and manufacturing firms. Our research's theoretical underpinnings are signaling theory, stakeholder theory, and RBV theory. The institutional theory overarches the theoretical foundations in the environmental compliance and environmental practices context.

In Chinese firms, Roscoe et al. (2019) studied how green human resource management can enable the green organizational culture and improve environmental performance. The study contributed to the HRM theory where HRM practices (hiring, training, appraisal, and incentivization) were claimed to support the green organization culture. They found that the green organization culture positively mediates the effect of HRM practices on environmental performance. Our study focuses on the mediation effect of environmental practices on the effect of environmental compliance on a firm's overall performance.

Borsatto and Amui (2019) reported that the rigor in the environmental legislation of a country and the firm size positively influenced the firms' green innovation. They also noted that countries' competitiveness or degree of firm internationalization did not significantly influence green innovation. Unlike Borsatto and Amui (2019), our study investigates the mediation of environmental practices in an emerging economy like India to understand the environmental ecosystem beyond environmental compliance.

The review of the above literature helps us to posit our study and find an appropriate research gap. The environmental research in the published literature has been with organization culture or institutional pressures as moderator. Firms studied were from China, developed countries, rubber industries in India, or only manufacturing industries. The dependent variable under investigation had been environmental performance. Theoretical perspectives used were institutional theory or HRM theory. This research attempts to bridge the research gap and propose studying

the indirect effect of environmental compliance on overall firm performance in Indian organizations. Our dependent variable's theoretical underpinning, firm performance, is in the signalling theory, stakeholder theory, and RBV theory. These theories are integrated using the institutional theory to study environmental practices to build an environmental ecosystem.

The world has witnessed several climatic changes and incidences in the last two decades. The alarming environmental changes in the Asia Pacific (Miles & Kapos, 2008), such as flood and extreme cold in China (2008), the cyclone in Myanmar (2008), and drought in Australia, are few indicative events causing pressure on the global community and the local governments towards environmental policies and practices. On the other hand, the depletion of fossil fuels leads to the quest for new energy sources such as wind, solar, hydro, geothermal, etc. The world energy production and consumption are rapidly growing, and the energy forecasts are getting failed.<sup>2</sup>

A series of environmental issues caught the attention of media across the globe. Environmental concern has also built pressure on the academic and industrial chambers to debate social development's environmental impact. Scholars have picked up many environmental issues related to water, air, health and safety, and carbon emission. A series of business and academic conventions<sup>3</sup> happening across continents (Asia, Europe, USA, etc.) are putting excessive pressure on practitioners and policymakers towards sustainable development. Scholars are reporting corporate efforts towards energy efficiency systems and carbon footprint control (Curtis & Lee, 2019) for environmentally friendly sustainable development in various parts of the world. The active debate among scholars (Goyal et al., 2018; Schubert & Smulders, 2019; Trollman & Colwill, 2020) brings policymakers, practitioners, and society together towards environmental measures.

In this context, this study probes the effect of environmental practices and compliance on firm performance in India. The Bhopal gas leak accident at UCIL (1984), Tsunami in the Bay of Bengal (2006), and agitation against the Vedanta Sterlite copper in Chennai (2018) are the few environmental events to cite. Energy is the primary source of the growth of emerging economies. According to the International Energy Agency (IEA), in the year 2017, India 344.69 GW as the installed energy capacity of which 15.3% is only renewable energy, rest is all the fossil fuel. Similar activities can be observed by the thermal power

plants operated by coal as the primary raw material. Due to non-compliance with government regulations, air pollution has increased to a few hundred (Heyes & Zhu, 2019).

The motivation of the first research question of the study was the series of environmental incidences happening in India and the outcome of initial interactions with first-generation entrepreneurs, experienced academicians, and the researchers' vital discussion topic. It has been reported in recent research (2018)<sup>4</sup> that about 57% of the single-layered plastic garbage in India is contributed by the milk and associated product pouches. Government regulations are being formed to contain single-layered plastic, and the corporates have also come forward to take initiatives. The review of the relevant literature and our interaction with entrepreneurs revealed that environmental measures are primarily driven by compliance and are considered a cost burden on the company. A start-up<sup>5</sup> founder commented that "in the want of immediate survival, the environmental practices take a back seat, and we only stretch till we comply with the government regulations." Our first research question originates from the present scholarly debate (Noordewier & Lucas, 2020; Wong et al., 2020) on the environmental compliance effect on the firm performance in developing countries due to coercive pressure (Yang et al., 2019) and institutionalization of environmental practices. Scholars have found evidence in the developed (Noordewier & Lucas, 2020) as well as developing (Wong et al., 2020) economies that indisputably, the adoption and implementation of environmental practices have a positive impact on the bottom line of the corporate enterprises (Gupta & Gupta, 2020a). Still, scholars in developing countries discuss that environmental compliance is merely a cost and does not add to organization performance (Linnenluecke et al., 2012). To add to this debate of environmental compliance, we also investigate environmental practices' influence on firm performance in emerging economies (Gupta & Gupta, 2020a). With this context and motivation, we set out our first research question as follows:

*Research Question 1:* How do environmental practices and compliance influence firm performance?

This study's second and prime objective is to describe the causal evidence from Indian industries that the acceptance of environmental practices in developing countries results from mimetic and normative pressure beyond mere coercive pressure (Yang et al., 2019). This study questions the institutional theory's first fundamental assumptions in the context of environmental practices in reasonably

<sup>2</sup> <https://www.vox.com/2015/10/12/9510879/iea-underestimate-renewables>.

<sup>3</sup> ICBPS2016: International conference on business, policy, and sustainability in CBS, Denmark, Europe; SUSBUS 2018: international conference on sustainability and business in IIM Calcutta, India, Asia.

<sup>4</sup> <https://www.iamrenew.com/environment/reduce-rebate-and-reuse-govt-targets-plastic-milk-pouches-for-recycling>.

<sup>5</sup> <https://m.economictimes.com/small-biz/legal/law-startup-india-story/articleshow/50713362.cms>.



mature emerging economies, which argues that environmental practices' institutionalization happens only by the coercive pressure. We find evidence in the Indian industries that environmental compliance has been the starting point of bringing attention to the environmental practices in Indian enterprises. The Indian industries arena is now more than two decades mature from the globalization and cross-boundaries trade started in India. The Indian industries have interfaced with the MNCs and have been engaged in exporting goods and services for over three decades. Many Indian central regimes have paid attention to the national environmental policies and have participated in global environmental summits. India has set targets to achieve environmental regulations and controls.

As reported in the reputed news agency, where about 65% of Indian consumers have stopped using single-use plastic bags and prefer to use disposable packaged materials, about 71% of Indian FMCG enterprises believe in having a strategy and resources to drive environmental practices and circular economy.<sup>6</sup> As a result, the industry has not only adopted the environmental practices under coercive pressures but also under mimetic and normative pressures (Yang et al., 2019). Most Indian industries are now tuned to implementing environmental policies voluntarily and not under government pressures. The Covid-19 crisis and social media have made the consumers more aware of environmental degradation and its long-term impact. As per a recent Capgemini Research Institute report,<sup>7</sup> 79% of the consumers change their purchase behaviours on social and environmental inclusiveness. About 55% of the consumers use less popular but environmentally sustainable products viz-a-viz branded, processed, and overly packaged. The consumer now associates with green products and services in India and returns in more sales (Karasek & Bryant, 2012) and sends a strong positive signal to the industries protecting the environment.

The environmental practices by a few firms enjoying more sales induce mimetic momentum in the overall ecosystem for other firms to implement environmental compliance. Many large firms would develop normative community pressures by doing business only with firms following the environmental norm (Yang et al., 2019). This leads to more interactions among the organizations of the field and spreads awareness among stakeholders and decision-makers (DiMaggio & Powell, 1983). This is to keep their environmental image very clean and leverage its brand value. This positive cycle of firms' environmental

practices slowly gets institutionalized in the ecosystem (Zucker, 1987). These practices then lead to firms complying with the rules and regulations by choice.

The study developed a strong theoretical framework based on the interface of various management theories. We challenge the institutional theory's key assumptions (Alvesson & Sandberg, 2011) and problematize the research questions accordingly. The research findings contribute to the literature of institutional theory (Zucker, 1987) and green operations context.

Scholars' attention on green operations has significantly increased in the last decade (Shibin et al., 2016; Zahraee et al., 2018; Marić & Opazo-Basáez, 2019; Bahrani & Arshadi Khamseh, 2020). The supply chain and operations management-focused journals have shown a high emphasis on green operations such as IJOPM (18 publications), IJPE (15), JSCM (10), IJPR (8), POM (5), and SCMIJ (74) in recent five years. Many journals were published dedicated to research on green operations viz JEEM (Curtis & Lee, 2019; Heyes & Zhu, 2019), JEM (Arimura et al., 2016), JCP (Zeng et al., 2010).

At the same time, second-generation entrepreneurs revealed that environmental measures have now become part of the organization's philosophy, and it has been leading to long-term benefits and adding to a competitive edge. There are examples such as the A P Moller Maersk,<sup>8</sup> the largest liner shipping company globally, run their operations of energy-efficient refrigerated containers, eco-friendly vessels,<sup>9</sup> and charge premium from the customers to move their cargo.

Several organizations such as (National Geographic Society, NatGeo, Teri, RAN, The Energy and Resource Institute, NWF, etc.) have come forward to attract the local governments' attention and help save the environment. There is a dedicated government body, "Ministry of Environment," to pay attention to India's environmental issues. At one place the Indian consumers and organizations environment promising awareness is claimed by CRI reports, Amazon India<sup>10</sup> claims the environment as the top priority, a plethora of examples cited by news articles arguing that the use of pollution control devices by smallest of the industries have just become a norm,<sup>11</sup> and the garbage in the cities is growing day by day, the pollution level in the water bodies is severe than ever. These incidences make India the correct setting to operationalize this study.

<sup>6</sup> [https://www.capgemini.com/wp-content/uploads/2020/07/20-06\\_9880\\_Sustainability-in-CPR\\_Final\\_Web-1.pdf](https://www.capgemini.com/wp-content/uploads/2020/07/20-06_9880_Sustainability-in-CPR_Final_Web-1.pdf), 1600 h, Jan 26, 2021.

<sup>7</sup> <https://economictimes.indiatimes.com/magazines/panache/majority-indians-purchasing-based-on-social-responsibility-inclusiveness-and-environmental-impact/articleshow/77299600.cms>, 1500 h, Jan 26, 2021.

<sup>8</sup> <https://www.maersk.com/about/sustainability/responsible-business-practices/air-emissions>.

<sup>9</sup> <https://www.greenbiz.com/news/2011/02/24/maersk-orders-worlds-greenest-container-ship>.

<sup>10</sup> <https://sustainability.aboutamazon.com/environment/packaging-and-products/packaging>.

<sup>11</sup> <https://economictimes.indiatimes.com/how-seriously-do-indian-companies-take-going-green/articleshow/52747927.cms>.

*Research Question 2:* How do environmental practices mediate environmental compliance on firm performance in developing economies?

First section introduces and motivates the study. The literature review and identification of the research gap are described in second section. Third section is devoted to the hypotheses development of this study. The research methodology is presented in fourth section. The articulation is concluded in fifth section with the future scope of research. The article is closed with a list of references.

## Theory and Hypotheses Development

Firm performance is the key construct studied by scholars in all functional domains for decades (Sardana et al., 2016; Patri & Suresh, 2017). The field of green operations is fetching increasing attention by recent scholars (Dai et al., 2017; El-Kassar & Singh, 2019). This study offers support to the propositions of established theories such as institutional perspective (Zucker, 1987), stakeholder theory (Edward Freeman, 2010), signalling theory (Karasek and Bryant, 2012), and resource-based view (Barney, 1991). A thorough literature review substantiates the research gap. We first develop the theoretical perspective, wherefrom then we derive our key constructs.

## Theoretical Background

Our theoretical model is based on the signalling theory (Karasek and Bryant, 2012), stakeholder theory (Edward Freeman, 2010), and resource-based view (Barney, 1991), which is integrated by the institutional perspective (Zucker, 1987).

The need for green operations has not remained a question anymore (Shibin et al., 2016; Zahraee et al., 2018; Marić & Opazo-Basáez, 2019; Bahrani & Arshadi Khamseh, 2020). Environmental measures have also been studied in different functional contexts, viz green supply chain management (Orr & Jadhav, 2018; Zarei et al., 2019), customer service, etc. Faccioli et al. (2016), Gotschol et al. (2014) presents that the benefits of the firm's environmental actions are long-term in nature. Improved communication between firms and their key stakeholders (Ko et al., 2013) becomes the firms' marketing capability and results in long-term profitability.

Many theories also lend support for firms to promote environmental practices to their advantage. Edward Freeman (2010) described that organizations need to work to meet multiple stakeholders' expectations, such as shareholders, customers, employees, suppliers, etc. When organizations actively monitor and systematically control their

environmental measures, resources will deplete, but its stakeholders perceive the organization as an environmentally responsible organization, which leaves a positive impact on firm performance in the long run (Freeman, 1984). Environmentally responsible organizations help employees stay motivated (Lado & Wilson, 1994) and loyal to the organization. The organization receives competitive advantages due to improved customer service, and in turn, long-term customer relationships. The shareholders closely watch these trends in organizations, attracting further investments, and improving firm performance (Aragón-Correa & Sharma, 2003).

According to the RBV perspective (Barney, 1991), firms generate unique and non-imitable resources such as employee loyalty, consumer utility (McWilliams & Siegel, 2001), investment opportunities, enhanced brand equity, and other intangible resources, which creates a competitive advantage for firms. We applied the RBV theory in support of the internal business process (IBPP) performance. The IBPP here is measured on a wider scale across manufacturing and services industries in India. The contingent RBV theory draws upon the RBV, contingency theory, and the dynamic capability theory (Gupta & Gupta, 2019) for the proactive corporate environments (Aragón-Correa & Sharma, 2003). The use of contingent-based RBV is very specific to very complex and uncertain organizational environments, where the decisions and their outcomes are uncertain. Our study relates to applying environmental compliance and environmental practices on the several dimensions of firm performance, where the uncertainty in customer performance or financial performance has been supported using signaling theories, stakeholder theory, and in an integrative manner, the institutional perspective. We describe the use of contingent-based RBV in our further scope because the scholars may replicate this study further in a highly volatile and uncertain corporate environment, where this may fit well.

The role of deploying technology to promote the environmental culture (Benzidia et al., 2021), circular economy (Rajput & Singh, 2019), green supply chains (Ivanov et al., 2020), and lean production (Ciano et al., 2020; Agarwal et al., 2021) has been the focus of recent literature supporting the RBV and dynamic capabilities. The literature reports in dynamic organizational contexts having multiple stakeholders are involved, such as suppliers, customers, policymakers, considerable period planning, and various products dealt together. The technology and digital infrastructure are the unique resources to build environmental practices culture (Benzidia et al., 2021). Recent studies on circular economy and close-loop supply chains (Rajput & Singh, 2019) reported that the industry 4.0 implementation could create eco-efficiency, eco-effectiveness, and eco-design in manufacturing supply chains. They



argued that the circular economy's progress is difficult to monitor, which can be improved using the industry 4.0 implementation. Literature also discusses that the lack of clarity of economic benefits and high implementation costs of industry 4.0 is the key roadblocks in the circular economy (Ivanov et al., 2020).

The firms abide by the geography's compliance to avoid the financial penalty and legal pressure (Linnenluecke et al., 2012). Environmental measures are commonly perceived as a cost burden by most practitioners. They are generally surrounded by a lack of understanding of the social and compliance implications and their short-term performance goals. The practitioners working for annual appraisals do usually end up ignoring social wellbeing and sustainable measures. With strong leadership and top management support in large firms, sustainable measures find space.

### Environmental Practices and Compliance

The focus on environmental awareness is visible in developing countries due to mandatory compliance by local governments (Clarkson et al., 2008), customer value perception (Govindan et al., 2015), and increased international trade (Korten, 1998). The disinvestments and liberalization (Korten, 1998), foreign investments (Chen et al., 1995), and corporate sustainability pressure (Linnenluecke et al., 2012) are the few critical reasons for debate on environmental concerns in emerging economies. Morelli (2011) described in a review that the maintenance of natural resources is essential for serving generations' needs without compromising the ecosystem's health.

The environmental dimension was discussed by Spanenberg (2004) in his TBL and institutional concepts. The social dimension was defined as human skills, experience, and behaviour. Financial performance was the focus of an economic concept. Biological processes were emphasized under the environmental dimension. The procedures and processes in organizations were described as institutional concepts. A series of recent studies reported the application of TBL.

Scholars used all different sets of manifests to study environmental issues. These measures were environmental management (Yang et al., 2011), environmental compliance (Dasgupta et al., 2000; Shimshack & Ward, 2005; Yang & Yao, 2012), environmental performance (Arimura et al. 2016), environmental practices (Sarkis et al., 2010), etc.

Environmental measures taken by the organizations under CSR (Longoni & Cagliano, 2018) do not directly benefit them, while the environmental efforts under TBL offer a direct benefit to organizations. A series of global organizations have taken up environmental measures under

CSR, such as Apple, Google, etc. The environmental efforts made by organizations under TBL are immense, such as Maruti Suzuki Limited (India), Honda, etc., which are ISO 14001 compliance industries.

The literature cites that the firms with age more than 2–3 decades or mature in business are more inclined to the environmental practices. SMEs or start-ups continue to struggle for survival and growth. The reasons claimed for the positive effect by large or aged organizations were the independent environmental practices beyond mere regulatory compliance. The SMEs adopt the environmental practices under local regulatory pressures (Wang et al., 2011) and meet the minimum requirements. The customer's perception and local government's debates on pollution control lead to further institutionalization of environmental policies (Zucker, 1987).

### Firm Performance

Based on our literature review, we find limited studies (Gupta & Gupta, 2020a) to assess environmental practices' impact on a wide range of firm performance dimensions. Various scholars study the performance in different functional contexts such as financial (Faccioli et al., 2016; Tan et al., 2017), the customer (Radhouane et al., 2018), operations (Dai et al., 2017), human resources (Liao et al., 2011; Lyu et al., 2018), health and safety context (Wiengarten et al., 2017), innovation and new product development (Gupta & Gupta, 2019), the dimension of innovation (Gupta, 2021), etc.

The definition of firm performance has been extensively reviewed by Bititci et al. (2011) from 1900 to 2010. The performance was defined as productivity management (1900–1940), which evolved as budgetary control (1930–1970), then integrated performance measurement (1960–1990), and finally integrated performance management (1990–2010). Several frameworks have been published on firm performance. The essential and most widely used performance frameworks were described, and one of them was adopted for our study, which aligns the most with our theoretical framework.

Karabulut (2015) contrasted and compared six firm performance measurement frameworks reported in the literature. Keegan et al. (1989) described the performance measurement matrix containing hierarchical, integrated, and supportive performance measures. Lynch and Cross (1991) presented a performance pyramid system similar to Keegan's hierarchical performance measures. A balanced scorecard framework was described by Kaplan and Norton (1993, 2001).

Kaplan and Norton (2001) described a comprehensive performance measurement framework widely known as a balanced scorecard. This framework defines performance

on four functional perspectives: financial, customer, internal business, and learning and growth performance. The financial performance was defined as cost control, improved resource utilization, customer value, and revenue. The customer performance was defined in terms of product attributes (low price, good quality, quick availability), relationship (service and loyalty), and image (brand value). The internal business process performance (IBPP) was defined as operations management (production, delivery), customer management (customer value), innovation (new product and customization), and regulatory and social (sustainable operations). Learning and growth are defined in terms of human capital (skill, talent, and knowledge), information capital (organization database, technology, networks, and infrastructure), and organizational social capital (Ganguly et al., 2019), such as culture, leadership, teamwork, and knowledge sharing.

A balanced scorecard performance framework (Kaplan & Norton, 1993, 1998) was used in this study. This performance framework was found comprehensive and adequately aligned with our theoretical framework.

## Hypotheses Development

Organizations send various signals to the principal investors and financial markets by taking appropriate actions and processes (Karasek & Bryant, 2012). The perception of a socially responsible company converts into loyalty and, in turn, low attrition of employees and long relationships with customers (Donaldson & Preston, 1995).

This study was considered under the theoretical lenses of vital propositions of the signaling theory (Karasek and Bryant, 2012) and stakeholder theory (Freeman, 2010) that the organizations are responsible for all stakeholders. In the later section, we substantiate the various relations posit in this study. A theoretical model is explained through the diagram in Fig. 1.

## Environmental Compliance

Yang and Yao (2012) found robust support in Chinese firms for environmental compliance and their financial performance and innovation. They found that the firms with ISO 14000 certification showed more sales volume and market share per capita employee. The firms implemented ISO 14001 under the environmental compliance across geographies such as the USA (Potoski & Prakash, 2005), Japan (Arimura et al., 2008), Mexico (Dasgupta et al. 2000), European countries (Johnstone et al., 2007) and have been rewarded by the environmental performance (Arimura et al., 2016). They also found evidence of no change in environmental performance by implementing

ISO 14001 in the UK (Dahlström et al., 2003), Mexico (Blackman, 2012), and U.S. (King et al., 2005).

In Chinese industries (Jiang et al., 2020), evidence was found that environmental regulations lead to technological innovation and performance. Telle and Larsson (2007) quantitatively proved that the measures of performance need to include environmental performance. They conducted statistical tests considering productivity indexes as dependent variables. They compared the results of the two experiments where first they included carbon emissions as input in determining the productivity index, and in the second experiment, they did not. They found that environmental regulations significantly associated productivity in the first case, but not in the latter case. The study reported by (Singla & Singh, 2018) finds evidence that compliance and governance in the private sector are improving in India. The behaviour of the management and stakeholders is a result of institutional setups.

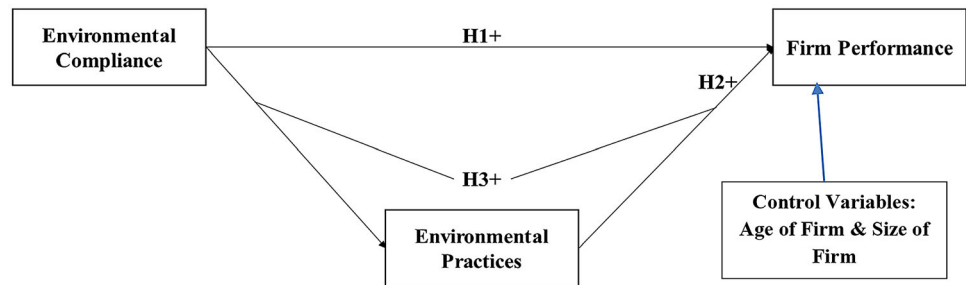
H1 A firm's environmental compliance is positively associated with firm performance.

## Environmental Practices

Tan et al. (2017) reported the relationship between environmental practices and organizational performance in the tourism industry in various geographies. Al-Tuwaijri et al. (2004) found a positive relationship between environmental performance and economic performance. However, González-Benito and González-Benito (2005) study in Spanish industries observed that environmental measures negatively affect financial performance while positively impacting customer performance. Interestingly negative relationship was established by Jacobs et al. (2010) between a firm's environmental measures and internal business processes performance. In contrast to the RBV perspective by Barney (1991), the negative relationship indicated that environmental measures consume valuable resources.

Radhouane et al. (2018) study showed a positive association of environmental measures on customer performance, whereas Clarkson et al. (2013) found no significant relation. Shimshack and Ward (2005) compared the effect of inspection and environmental compliance. The study was conducted in the context of water pollutants. They reported that compliance enforcement with defined penalties has more impact on environmental efforts than mere internal monitoring and inspection. Arimura et al. (2016) highlighted that the effect of ISO 14001 is positive on performance if the firms have clear cost control opportunities. They also described that government policies' flexibility could increase the adoption of ISO 14001 by firms than mere enforcement.



**Fig. 1** Theoretical model

Grant (1996) described that the knowledge generated and disseminated by organizations becomes their competitive resource (Ganguly et al., 2019). This knowledge can be environmental knowledge as a competitive resource (Liao et al., 2011). The impact of environmental efficiency has been studied by Lyu et al. (2018) in Chinese industrial production systems. Marić and Opazo-Basáez (2019) recent study in the computer and electronic industry proposed that voluntary pro-environmentalist attitude facilitates closed-loop supply chains than the legislation imposed pressures or commercial gain motives. The study advocates that reverse logistics' voluntary implementation leads to TBL benefits in the computers and electronics industries in developed and developing countries.

Under the above-mixed findings from scholars who generally vouch against and in favour of the positive effect of environmental practices on firm performance in general, we establish our hypothesis as follows:

**H2** A firm's environmental practices are positively associated with firm performance.

### ***Environmental Compliance Mediated via Environmental Practices***

Sarkis et al. (2010) indicated that the environmental practices (eco-design, source reduction practices, and managerial process management practices) are useful in an automotive organization if the employees are provided adequate training to execute them. They established relations between institutional (Stakeholder pressure) theory and the dynamic capabilities of resource-based theory. Yang et al. (2011) argued that environmental management practices are nothing but the extension of manufacturing practices; therefore, running parallel environmental management programs reduces the effect of continuous improvement and supplier management on IBPP performance, such as cost and delivery. They observed a negative relation of environmental practices on the impact of supplier management on performance. In Mexican small pottery businesses, Sánchez-Medina et al. (2013) found empirical evidence that environmental compliance positively relates to environmental performance, and economic

performance, though mediated through environmental innovation.

Zhu et al. (2012) examined two environmental practices' mediation effect in a Chinese manufacturing organization. They first considered internal green supply chain management (GSCM) as a mediator to study the impact of external GSCM on firm performance, and then regarded as external GSCM as a mediator to study the effect of internal GSCM on firm performance. They built several models by considering individual internal GSCM (internal financial policy, eco-design) and external GSCM practices (Green purchasing, investment recovery, customer cooperation). Interestingly they found full support for most of their mediating relations. The internal financial policy mediated only partially on the effect of customer cooperation on firm performance.

The context of the environmental practices may have a different influence on the performance. Lucas and Noor-dewier (2016), in a study of US manufacturing firms, reported that the effect of environmental practices is greater on financial performance in relatively dirty and non-proactive industries. Wong et al. (2020), in a study in Hong-Kong and Thailand industries, reported that the larger firms enjoy the environmental benefits by majorly taking green product design and production-related practices, and small firms benefit more by lighter environmental practices such as green logistics and packaging. It is evident from the literature that environmental practices have shown different influences on performance in varied contexts. In the Indian context where the environmental regulations and voluntary environmental practices concurrently adopted by the Indian enterprises, we posit the hypothesis as:

**H3** The impact of a firm's environmental compliance is positively mediated through the environmental practices on firm performance.



## Methodology

The data collection instrument, measures reliability, validity, diagnostic tests for regression, and empirical analysis are described in the following sections.

### Questionnaire and Measures

Performance scale was adapted from (Kaplan & Norton, 1993) environmental practices, and environmental compliance was adapted from well-established and validated measures (Aktin & Gergin, 2016). A seven-point Likert scale was used for all constructs, where “1” as “not at all” and “7” as “to a large extent.” This study’s key manifests to measure the environmental practices were practices controlling waste, CO<sub>2</sub> emission, water and electricity consumption, ecologically safe production processes, and products. The environmental compliance measures include manifests as acquisition and awareness of environmental compliance certification (ISO14001, etc.), following ecological standards while serving customers. Scale and items after CFA are compiled in Table 6 (Appendix).

### Sampling Design

A convenience-sampling method followed by snowballing was employed. Concepts of environmental compliance and practices related to policymaking require intervention from the middle to top management executives. Published literature on environmental management suggests that more accurate data can be gathered from experienced, educated management executive respondents (Alwitt & Pitts, 1996; Chan, 2001; Hedlund, 2011; Paul et al., 2016; Kumar et al., 2017). Thus, due to the study’s conceptual complexity, data were collected from the highly educated and experienced executives of the firms reached out through the personal and referral (Snowballing) contacts of the Indian industries.

A total of 240 responses were collected but ended with 203 responses after data cleaning and testing. The minimum required was 170 as per the 1:5 ratio defined as five samples per variable (Hair et al., 2010a, 2010b), the study had 32 variables pre-CFA (confirmatory factor analysis). So, a sample size of 203 was sufficient. Middle-to-top management group employees (Table 1) of the firms were administered for the sample. Their position varied from an assistant manager or equivalent to the director of the company. Almost 45–50 different firms were approached and administered for the sample.

### Nonresponse Bias Test

To test for non-response bias. We took to two datasets for each construct: one early (initial) set as first wave and the other late (final) set as second wave (Miller & Smith, 1983; Connors & Elliot, 1994; Lindner et al. 2001; Radhakrishna & Doamekpor, 2008). Two samples independent T-test was performed for each construct between the two waves. Since the test results showed no statistically significant results, the samples represent the population frame. Therefore, non-response bias is absent in the data collected.

### Data Coding and Cleansing

Variables were given codes, and data were entered in MS-excel. After initial screening for unfilled questions, the questionnaire’s data cleaning was done using standard deviation (SD). The questionnaire with blanks more than 10% of the total variables was discarded while fewer were replaced with the column means and median, as a standard practice. Mahalanobis distance technique (Mahalanobis 1936) in AMOS (analysis of a moment structures) also ensures normality concerns.

### Validity and Reliability

The scale’s convergent validity was confirmed based on three criteria (Fornell & Larcker, 1981; Hair et al., 2014). The composite reliabilities (CR) of the constructs ranged from 0.88 to 0.96 (threshold 0.7). Similarly, the average variance extracted (AVE) of constructs ranged from 0.64 to 0.88 (threshold > 0.5). The CR was higher than the AVE for each construct (required condition: CR > AVE). The instruments also had discriminant validity as AVE was higher than maximum-shared variance (MSV) for each construct (Fornell & Larcker, 1981). Furthermore, all indicators’ reliability coefficient values exceeded the recommended limit of 0.6 (Nunnally, 1978) (Table 2).

The CMIN/DF and RMSEA from our model were 1.52 and 0.051 (threshold < 3, and < 0.08, respectively) (Daniel et al., 2002). The fit indices indicated that the instrument was valid to test hypotheses (Table 3).

### Measurement Invariance

All three tests (*Configure invariant*, *Metric invariant* Chi-square test, *Scalar invariance* test) were performed for measurement invariance Steenkamp and Baumgartner (1998) across construct groups, and the results were found satisfactory. We concluded that our research’s model and scale are consistent and valid, and unbiased results are expected.



**Table 1** Demography of the respondent

Characteristics	Scale	Frequency (%)
Employee position	AM/DM/M/SM	62
	CM/AGM/DGM/GM/VP/director	38
Firm size (asset)	> 2500 crores	57
	≤ 2500 crores	43
Firm category (sector)	Service	57
	Manufacturing/production	43
Firm's age	> 40 years	39
	≤ 40 years	61

**Table 2** Reliability and validity indices

Key constructs	AVE	CR	MSV	Ch alpha
Financial performance	0.80	0.96	0.65	0.96
Customer performance	0.75	0.94	0.65	0.94
Internal business processes performance	0.66	0.88	0.38	0.88
Learning and growth performance	0.64	0.91	0.50	0.93
Environmental practices	0.76	0.93	0.71	0.92
Environmental compliance	0.88	0.93	0.71	0.96

**Table 3** Model fit indices (CFA)

INDICES	NFI	RFI	IFI	TLI	CFI	GFI	AGFI	CMIN/Df	RMSEA	PCLOSE
Actual	0.92	0.91	0.97	0.97	0.97	0.85	0.82	1.52	0.051	0.43
Threshold	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.80	≤ 3.0	≤ 0.08	≥ 0.05

### Common Method Bias/Variance (CMB/V)

In the investigation of a complex mediation relationship, it is believed that the responses are free of CMV. For the robustness of our findings, we followed steps of process control during the design and administering the survey (Podsakoff et al., 2003), statistical control by Harman's single-factor test in AMOS-20 (Mossholder et al., 1998). Harman's technique has been in criticism (Kemery & Dunlap, 1986). Therefore, we also used another method known as CLF (Common Latent Factor) to test for CMV. We concluded that the study is free from CMV.

### Hypothesis Testing

The structural equation modelling (SEM) modelling was used for hypotheses testing, which involves multiple regression analysis, path analysis, and CFA (Hussey & Eagan, 2007).

### Robustness Test

The following testing ensures the model's robustness: (a) Multi-collinearity test, (b) Test of Heteroscedasticity, and (c) Endogeneity test.

#### Multi-collinearity Test

The VIF (threshold < 10) and tolerance (threshold 0.1) values are calculated as an indicator of multi-collinearity (Hair et al. 2010a, 2010b), where tolerance is reciprocal of VIF. The VIF and tolerance of environmental practices (4.88, 0.20) and environmental compliance (4.50, 0.22) were satisfactory. Durban-Watson talks about serial correlation, which was in line with the threshold of a maximum of 2. The result confirms the absence of multi-collinearity.

## Test for Heteroscedasticity

This test (Breusch & Pagan, 1979; Koenker, 1981) was done using SPSS by Ahmad Daryanto.<sup>12</sup> Failing to reject the null hypothesis ( $p$  value of 0.12) confirmed the presence of homoscedasticity.

## Endogeneity Test

The essential requirement of OLS is that all the independent variables must be exogenous. The error terms and the independent variables should not be related to each other in regression analysis. The presence of such relations could lead to miscalculation and reporting (Hamilton & Nickerson, 2003). Thus, it is always advised to perform the test of indigeneity for robust regression results.

Test of indigeneity is performed using 2SLS with IV technique (Wooldridge, 2002, 2015) in the STATA tool. Three tests are performed (a) Endogeneity test, (b) Week-strong instrument selection test, and (c) Over-identification restrictions test.

In this research, environmental compliance and environmental practices are the independent variables, and firm performance is dependent. Endogeneity for each independent variable is tested individually for the dependent variable. Durban and Wu-Hausman test for all the exogenous variables were not significant ( $p$  values  $> 0.05$ ). The result nullifies the presence of indigeneity. Secondly, partial R-square and F-statistics are relatively high and significant, suggesting strong instrument variables. Lastly, Sargan and Basmann's Chi-square tests are insignificant ( $p$  values  $> 0.05$ ); this indicates that the selected instrument variables are suitable and correctly explains the exogenous variables.

## Impact of Environmental Practices and Environmental Compliance on Firm Performance

The direct effect of environmental practices ( $\beta = 0.56$ ,  $p < 0.001$ ) on firm performance was positive and significant; therefore, hypothesis H1 was accepted (Fig. 2). The impact of environmental compliance ( $\beta = 0.11$ ,  $p > 0.412$ ) was not significant on firm performance. Consequently, we rejected hypothesis H2 (Table 4).

## Controls

Control variables used are Age of the firm and the size of the firm. Both the control variables were insignificant,

which further confirms the outcome of the endogeneity test. The firm size and firm age do not significantly affect firm performance; hence, there is no confounding in the model. The total variance explained by R<sup>2</sup> is clearly by the exogenous variables only (Table 4).

## An Indirect Effect of Environmental Compliance on Firm Performance Through Environmental Practices

The indirect effect of environmental compliance on firm performance ( $\beta = 0.56$ ,  $p < 0.01$ ) was observed as significant and positive. This indirect effect is a product ( $0.86 * 0.65 = 0.56$ ) of the direct effect of environmental compliance on environmental practices ( $\beta = 0.86$ ,  $p < 0.01$ ), and environmental practices on firm performance ( $\beta = 0.65$ ,  $p < 0.01$ ). Since the direct effect of environmental compliance on firm performance ( $\beta = 0.11$ ,  $p > 0.412$ ) was not significant, we concluded that the environmental practices fully mediated the effect of environmental compliance on firm performance. Therefore, we accepted hypothesis H3. The outcome seemed very encouraging related to policy acceptance. The study indicates that any policy brought through awareness and stakeholders' motivation will easily become part of the operating culture. Acceptability of such a policy would institutionalize the practices and imbibe them in the culture of an organization. But if brought through enforcement, it may either delay or never lead to desired outcomes.

## Mediation Mathematical Model

We describe the mathematical model of the mediation analysis with its standard beta coefficients. Mediation analysis performed using SEM relieves the drawback of series standard regression and provides a robust and stable framework for mediation. SEM also provides model fit information for its hypothesis consistency (Bollen & Pearl, 2013). Regression variables and equation used for mediation analysis using SEM (Fig. 3) were formulated as:

FMP: firm performance; ECM: environmental compliance; EPR: environmental practices.

A. For exogenous variable, ECM:

$$EPR = 0.65 * ECM$$

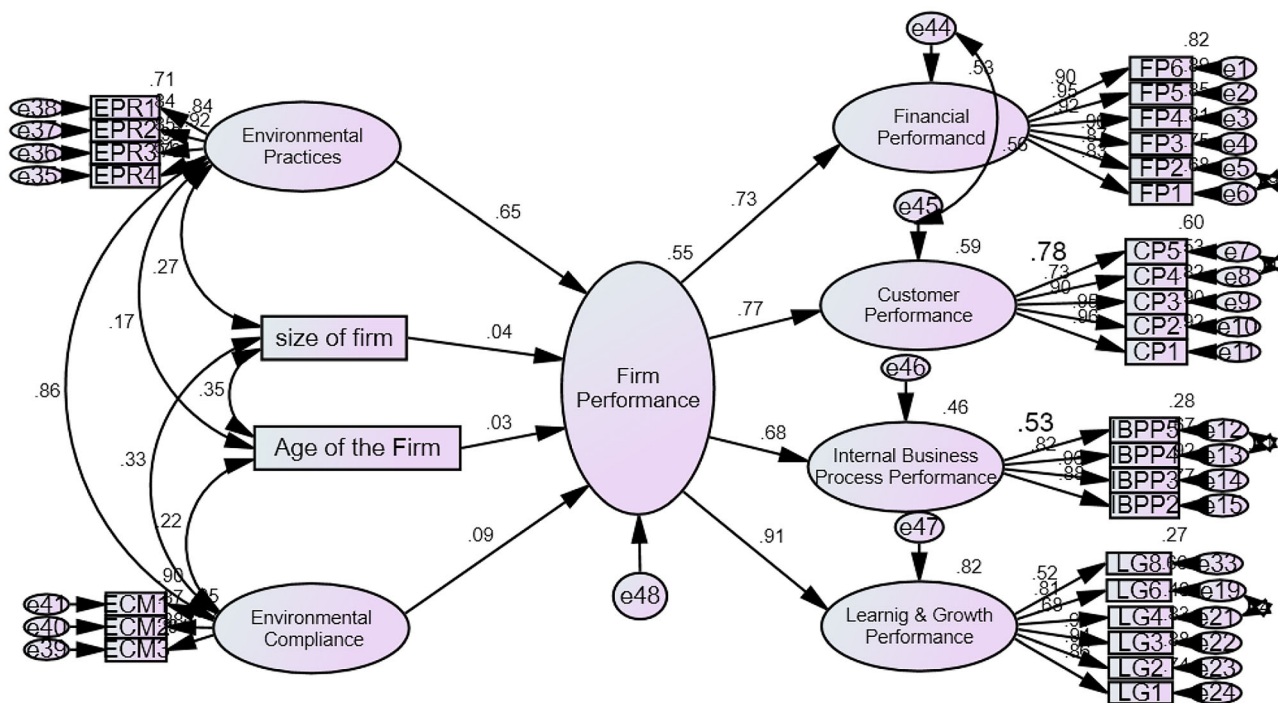
$$FMP = 0.11 * ECM + 0.75 * EPR$$

The direct effect of ECM on FMP is 0.11. The indirect effect is through EPR on FMP, thus  $\beta_2 * \beta_3$  ( $0.65 * 0.75$ ) is the indirect effect (0.56) of ECM on FMP.

The total effect of ECM on FMP:  $TE_{ECM}^{FMP} = \beta_1 + \beta_2 * \beta_3$

<sup>12</sup> <https://sites.google.com/site/ahmaddaryanto/scripts/Heterogeneity-test>.





**Fig. 2** Impact of environmental practices and environmental compliance on the firm performance (control variables: age of the firm and size of the firm)

**Table 4** SEM result (endogenous variable: firm performance)

#	Exogenous variable	St. beta	SE	C.R.	p	R <sup>2</sup>	Result
<i>Without control variables</i>							
H1	Environmental compliance	0.108	0.118	0.821	0.412	0.548	Not supported
H2	Environmental practices	0.648	0.115	4.769	***		Supported
<i>With control variables (age of firm and size of firm)</i>							
H1	Environmental compliance	0.087	0.118	0.646	0.518	0.552	Not supported
H2	Environmental practices	0.648	0.118	4.79	***		Supported
	Age of firm	0.03	0.105	0.5	0.617		Not supported
	Size of firm	0.041	0.162	0.644	0.52		Not supported

$$TE_{ECM}^{FMP} = 0.11 + 0.65 * 0.75$$

SEM (Fig. 3 and Table 5) was used for mediation analysis in this research. Bootstrapping (Monte Carlo-parametric bootstrap) was performed at 5000 bootstrap samples. Bootstrapping was done to get the indirect effect (Bollen & Stine, 1990; Shrout & Bolger, 2002) of EPR on the effect of ECM on FMP. Significance is measured at 95% Bias-corrected confidence intervals.

### Results and Discussion

The study primarily investigates the direct and indirect effect of environmental compliance on overall firm performance. The recent Indian government initiative *Make in India* has brought a significant improvement in the world ranking of ease of doing business in India.<sup>13</sup> Several scholars’ findings are consistent with our results from emerging economies (Montabon et al., 2007; Yang et al., 2011; Hofer et al., 2012; Lucas & Noordewier, 2016). These reported findings are relevant because China and

<sup>13</sup> [https://www.business-standard.com/article/economy-policy/ease-of-doing-business-ranking-india-cites-reforms-to-get-top-50-spot-119063000795\\_1.html](https://www.business-standard.com/article/economy-policy/ease-of-doing-business-ranking-india-cites-reforms-to-get-top-50-spot-119063000795_1.html).



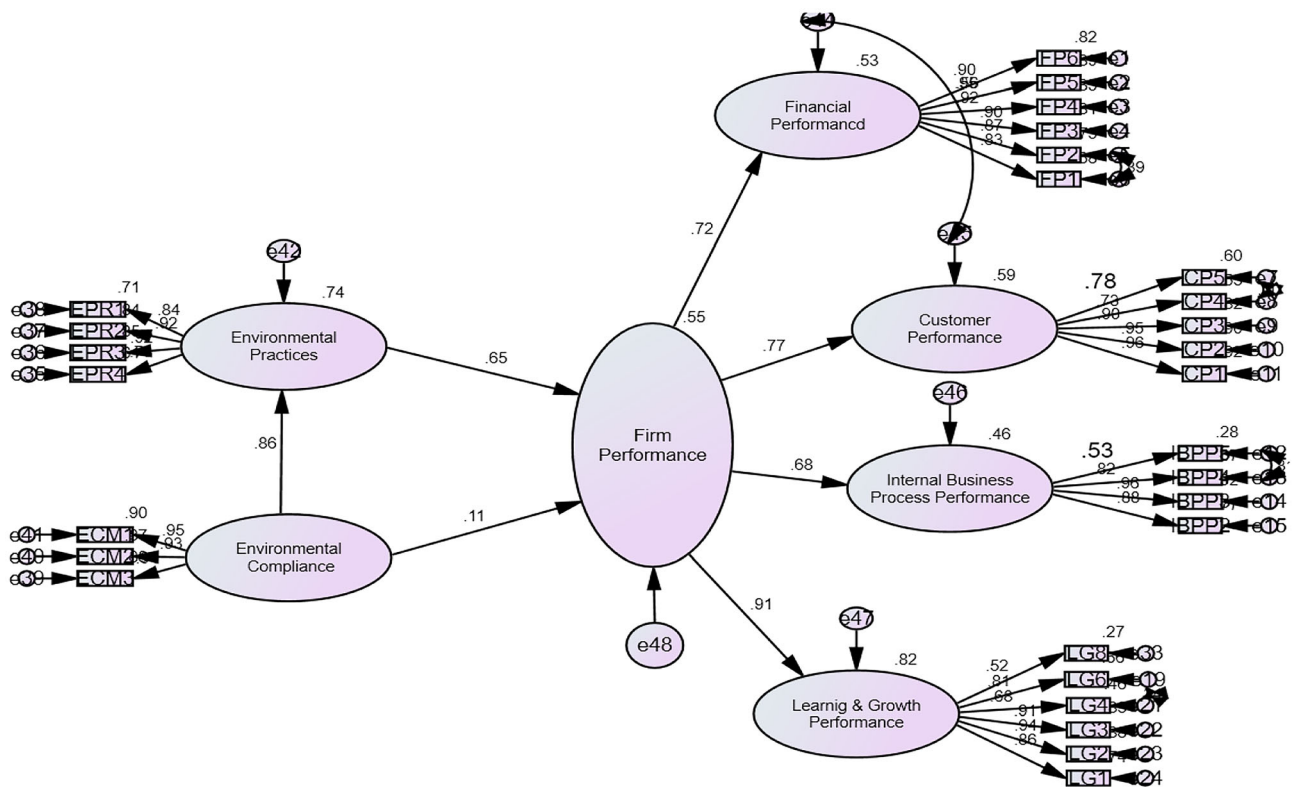


Fig. 3 Mediating effect of environmental practices with environmental compliance and firm performance

Table 5 Mediation result

Standardized effects (sig), * <i>p</i> < 0.05, ** <i>p</i> < 0.01	Total effect		Direct effect		Indirect effect ECM	Mediation status
	ECM	EPR	ECM	EPR		
EPR (mediating variable)	0.86 (0.009)**	–	0.86 (0.009)**	–	–	Full
Firm performance (dependent variable)	0.66 (0.02)*	0.65 (0.003)**	0.108 (0.583)	0.65 (0.003)**	0.56 (0.004)**	

Eastern Asia had been emerging manufacturing economies in the past few decades.

The organizations are making investments in executive training across the country. Many management education institutes in India are heavily engaged in delivering top management executive training over the last decade. The organizations are spending on training and nominating more executives to the environmental practices-focused programs.

How and which environmental practices positively affect different performance dimensions were investigated further. Controlled water and electricity consumption directly adds to the financial benefits (Chang, 2015; Faccioli et al., 2016; Tan et al., 2017). It is apparent that when firms take measures to reduce CO<sub>2</sub> emissions, adopt waste management and recycling practices (Sarkis et al., 2010), this adds to the operations performance (Dai et al., 2017).

The environment-friendly products attract customers, and in turn, customer perception (Govindan et al. 2015) and performance improvements. The ecologically safe and harmless to health processes result in enhanced employee engagement. This employee engagement can be active participation in various processes, or continuous improvements by the employees, or attrition of employees.

Environmental compliance showed a positive impact on firm performance. A series of scholars have argued this finding in published literature in various geographies such as China (Yang & Yao, 2012), USA (Potoski & Prakash, 2005), Japan (Arimura et al., 2008), Mexico (Dasgupta et al., 2000), European countries (Johnstone et al., 2007). Scholars have debated that the organizations take environmental measures to comply with the region’s compliance requirements (Linnenluecke et al., 2012). Legitimacy pressure leads to a firm’s actions towards environmental



compliance activities (Clarkson et al., 2008). These practices are usually for CO<sub>2</sub> emission, recycles wastewater, optimal utilization of electricity and water, and eco-friendly production processes and thereby the products (Sarkis et al., 2010). It is mandatory in most countries to receive a certificate of environmental compliance (Yang & Yao, 2012) from the regional compliance departments. It can be noticed that the firm environmental compliance triggers them to take appropriate environmental measures, which leads to direct financial benefits, customer satisfaction and branding (Govindan et al., 2015), internal production efficiencies, and improved employee engagement.

The empirical finding observed as an outcome of our second research question is being investigated now. It was interesting to examine if the firm's merely complying with the environmental norms? As explained, the indirect effect of compliance via environmental practices was observed positive and significant on performance. No literature was found investigating the mediating effect of environmental practices on the effect of compliance on performance. However, Zhu et al. (2012) argued the strong mediating impact of internal and external green supply chain management on performance. This has always been debated among scholars if the firms' environmental practices are self-motivated or compliance-driven. This indirect effect indicates that compliance triggers environmental practices (Linnenluecke et al., 2012), and these practices slowly become commonplace. Other firms observe the benefits achieved by the firms taking environmental measures. They are attracted to take similar measures; this develops an ecosystem of such practices. SME's take measures under regulatory pressures (Wang et al., 2011). In due course, the larger firms institutionalize (Zucker, 1987) these practices in the form of standard practices much above mere compliance. In such an ecosystem, the firm's not abiding by the institutionalized practices would either be perished or outcast.

The findings based on the Indian firms indicate that this region's ecosystem is also institutionalizing environmental practices (Zucker, 1987). This is probably also why the direct effect of compliance on performance becomes less significant in environmental practices as a mediator. All emerging economies usually operate on nominal compliance in their initial years of environmental awareness. With time, environmental compliance becomes an ecosystem of environmental practices.

### Research Theoretical Implications

This research's academic and managerial contributions and findings in an emerging market context are articulated in the next sections. The research brought a series of literature evidence and industrial examples from India as an

emerging economy to substantiate our theoretical arguments. Kauppi (2013), in a review of literature on institutional theory, summarized that the theory had been focused on quality management, GSCM, and e-applications. We problematize (Alvesson & Sandberg, 2011) each of our research questions and bring the three dimensions: coercive pressure, mimetic pressure, and normative pressure of the institutional perspective (Zucker, 1987) forefront in the context of environmental management.

Generally, in the environmental context in emerging economies, it is well understood that coercive pressure (government regulations and compliance) is one of the important ways to implement environmental practices (Clarkson et al., 2008; Yang & Yao, 2012; Singla & Singh, 2018; Jiang et al., 2020). The literature lacks the focus on the other two dimensions of institutional theory: mimetic isomorphism and normative isomorphism. With evidence from India, we argued that the normative (first mover's industry leaders for long-term benefits and a responsible behaviour) and mimetic pressures (imitating the responsible large industrial leaders) were not visible in India as an emerging economy. In all emerging economies, the initial phase is about coercive pressures, which may transform into normative and mimetic pressures, and finally, institutionalization as unspoken rules and an environmental ecosystem. The research has two vital scholarly contributions as follows.

*Firstly*, environmental compliance and environmental practices positively influence firm performance. This research's firm performance is defined comprehensively using financial, customer, internal business, and learning & growth performance. This research extends and supports the findings of existing literature on environmental compliance (Noordewier & Lucas, 2020; Wong et al., 2020), and coercive pressure (Yang et al., 2019), and environmental practices (Karasek and Bryant 2012; Gupta & Gupta, 2020a, 2020b). Our research also helped to extend the existing literature and argued contrary to the findings that the environmental efforts in developing countries have been merely a cost (Linnenluecke et al., 2012).

Our hypotheses results add to the existing scholarly debate (Colwell & Joshi, 2013; Kauppi, 2013; Dubey et al., 2019), and findings reaffirm the propositions of established theories such as institutional perspective (Zucker, 1987), stakeholder theory (Edward Freeman, 2010), signaling theory (Karasek and Bryant, 2012), and resource-based view (Barney, 1991). Environmental compliance in India is in discussion for the last two decades. The firms are now moving towards the next orbit of environmental awareness maturity. They are not only complying but also leveraging the benefits from stakeholder engagements and avoiding the penalties litigations. The recent governments have demonstrated severe concerns about environmental issues.

We found evidence in an emerging economy in India that the environmental practices superseding the compliances. The finding can be generalized because the Indian demography is similar to several South Asia economies such as China, Pakistan, Sri Lanka, Vietnam, Malaysia, etc.

*Second*, the study made a significant contribution to the literature of institutional theory. Environmental compliance is weakly associated with firm performance in the presence of environmental practices. The indirect effect of environmental compliance via environmental practices results in a significant performance. This indicates that when the compliance can build an ecosystem of environmental practices, which slowly institutionalizes (Zucker, 1987) over a while by the firms in the region, the firms naturally start leveraging the performance benefits. The nominal environmental practices triggered by mere environmental compliance influence firm performance with short-sightedness (Linnenluecke et al., 2012). This sends a negative signal to all its stakeholders that the practices are taking place to merely comply with the mandatory legitimacy pressure (Clarkson et al., 2008). The standardization of the environmental practices for sustainable development entails the realized long-term benefits and wellbeing of the society, which is in line with the institutionalization of the processes and practices (Zucker, 1987) in emerging economies. These practices institutionalization is visible in emerging economies where environmental awareness is in mature stages, and the firms have already developed an ecosystem of sustainable practices (Zucker, 1987). In such markets, the firms take environmental practices beyond mere legitimacy.

Our findings reemphasized the scholarly debates on corporate environmental responsiveness to the institutional pressures (Colwell & Joshi, 2013) and mimetic isomorphism as an outcome of perceived environmental uncertainty (Kauppi, 2013). Our research also argued that it is not just the coercive pressure but also the mimetic and normative pressure which brings the institutional isomorphism to build the environmental management ecosystem (Colwell & Joshi, 2013). Dubey et al. (2019) described under the institutional isomorphism three dimensions the development of tangible resources and human skills, which helps big data and predictive analytics adoptions in the organizations and, in turn, financial and operational performance. Our research further extends their RBV theory argument of tangible resources and human skills in the wider form of environmental practices directly influencing and the environmental compliance is indirectly influencing the overall firm performance under institutional perspective.

India is in stages where the environment ecosystem is developing, and firms have started realizing the real benefits in various forms. The firms value those suppliers who

adopt environmental measures. The customer values those firms who take appropriate steps to protect the next-generation's rights in view of stakeholder theory (Cormier & Magnan, 2015). The findings of this research can be generalized in line with the institutional theory, such that in the development journey of any region, the firms move from mere short-term benefits to long-term benefits and work towards building an ecosystem and sustainable development.

### Practical Implications

The debate around environmental concerns varies continents-wise. In the developed world, the discussion is to protect the resources and environment for next-generation stakeholder theory (Edward Freeman, 2010). The protests among the developing countries are that resource consumption, thereby, a little impact on the environment is essential for their growth and development. Both viewpoints are correct in their place—those in advanced stages of development like to move to sustainable development. The ones in the growth stage of development would like to prioritize their development more than environmental concerns. A series of international conferences<sup>14</sup> and a debate among scholars have brought both views to a consensus that sustainable development is indisputably a need of everyone. The governments in emerging economies have started developing regulations to protect the resources and environment. The level of awareness is different as per the development stages of a country and individual firms. The research indicates several managerial implications for practicing managers at the firm level.

*Firstly*, the firms and their top executives must appreciate that the environmental measures favor everyone in the longer run. The observed strong positive association of environmental practices with a firm's overall performance confirms to the practicing managers that the firms engaged in sustainable development can leverage the long-term benefits. The practicing managers need to vision beyond their yearly performance horizon. If today's performance measurement also considers the past performances of a practicing manager, they will be attentive in their decision-making today for their future performances.

*Second*, the firms must invest in their decision-makers and executives (Sarkis et al., 2010). This is to develop an awareness of the research findings from various regions and best practices. The executive training can ensure that

<sup>14</sup> ICBPS2016: International conference on business, policy, and sustainability in Copenhagen business school, Denmark, Europe; SUSBUS 2018: international conference on sustainability and business in IIM Calcutta, India, Asia.



these findings are appropriately disseminated to the policy and decision-makers.

*Third*, the top executives' performance should be creatively linked with the social, economic, and environmental measures (Hussain et al., 2018), which can help sustainable development and improve firm performance. There are several activities by practicing managers, such as water and electricity consumption, recycling of waste material, using environmentally friendly material for packaging, and applying methods causing the least environmental damage. More so, all these measures taken by practicing managers are conveyed to the key stakeholders such as investors (Saeidi et al., 2015), customers (Cormier & Magnan, 2015), employees, and suppliers. Such positive actions would convert into performance. A mechanism can be developed to quantify the benefits and link an individual's performance and a group.

*Fourth*, the policymakers may notice from this research that compliance also showed a weak but positive association with performance. Another important observation is that compliance showed a strong positive association with environmental practices. More stringent regulations and penalties for breaching compliance (Linnenluecke et al., 2012) can build pressure of legitimacy and litigation and trigger environmental practices (Clarkson et al., 2008). This would lead to environmental awareness and an ecosystem of environmental measures; organizations would start enjoying the benefits, and the practices may then institutionalize over time (Zucker, 1987).

## Limitations and Future Scope of Research

This research brought insights towards the limited role of legitimacy and coercive pressure for environmental practices. This research had a few limitations, which could be interesting extensions.

*First*, this research depended upon the operationalization of the study in India. While India is among the fastest emerging economies, and the findings of this research apply to similar economies, the scholars may replicate this in other geographies and substantiate the results. The study can further be extended in specific industrial domains of geographies. There are a large number of publications on contextual comparison of relationships.

*Second*, presently the study combines the manufacturing and services industries and all industrial segments though predominantly automobile and electronics, etc. The study may be extended to investigate these relationships in a comparative manner between manufacturing and services, public organizations versus private organizations, capital intensive industries versus labor-intensive industries.

*Third*, this study investigated the mediating effect of environmental practices. Recent studies report the moderating effect of firm size on CSR's economic performance impact (Sánchez-Infante Hernández et al., 2020; Sardana et al., 2020). The scholars may explore the firm size's moderating effect on the relationships studied in this paper, where the size can be measured using the employee strength or annual turnover.

*Fourth*, the scholars may also explore the study under the lenses of contingent-based RBV, institutional theory, and other relevant theories.

## Declarations

**Conflict of interest** The authors declare that they have no conflict of interest.

## Appendix

See Table 6.

**Table 6** Measurement scale of the concepts (after CFA)

Latent variables	Manifests	Variable codes	St. beta
Financial performance	Our market share has been improving	FP1	0.83
	Our sales revenues of new products have been improving	FP2	0.87
	Our profitability has been improving	FP3	0.9
	Our productivity has been improving	FP4	0.92
	Our ROI has been improving	FP5	0.94
	Our inventory turnover ratio has been improving	FP6	0.91
Customer performance	Our number of new customers are improving	CP1	0.96
	Our sales to new customers are improving	CP2	0.95
	Our sales to current customers are improving	CP3	0.9
	Our customers are ready to wait beyond the promised time of delivery	CP4	0.73
	Our number of customer left the firm are low	CP5	0.78



**Table 6** continued

Latent variables	Manifests	Variable codes	St. beta
Internal business processes performance	Our production costs or cost of operation is low	BPP2	0.88
	Our duration of production/service is low	BPP3	0.96
	Our duration to launch a new product/Service is low	BPP4	0.82
	Our defective product rate/repeat service is low	BPP5	0.53
Learning and growth performance	Our employee happiness is high	LGP1	0.86
	Our gathering information about new products/services is good	LGP2	0.94
	Our gathering information about customers is satisfactory	LGP3	0.91
	Our employee turnover rate is satisfactory	LGP4	0.68
	Our number of implemented employee suggestions are good	LGP6	0.81
	Our employee engagement is good	LGP8	0.52
Environmental practices	Our precaution to reduce CO <sub>2</sub> emissions are good	EPR1	0.84
	Our recycling and waste management practices are good	EPR2	0.92
	Our water and electricity consumption levels are low	EPR3	0.92
	We sell environment-friendly products	EPR4	0.78
Environmental compliance	Awareness of ISO14001 environmental standards is good	ECM1	0.95
	We serve its customers according to the ecological standards	ECM2	0.93
	We have the environmental compliance certificates	ECM3	0.94

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### Key Questions Reflecting Applicability in RealLife

1. How is the environmental practices eco-system is developed in general, and is developing in various emerging economies in particular?
2. How would the industry paradigm to environmental practices shape up in next decade, and alternative sources of energy towards a sustainable development?
3. What would be the role of governments and industry leaders in ensuring the institutional pressures towards environmental management in the society?





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