

## Supplementary Material

### *Investigating Performance Outcomes Under Institutional Pressures and Environmental Orientation Motivated Green Supply Chain Management Practice*

**Table S1: Summary Table for Aspects and Practices**

(1) Institutional Pressure (IP)	
Institutional Pressure (Coercive) (IPC)	
IPC1- The green environmental management of our firm will be influenced by national environmental regulations (such as waste emission, cleaner production, etc.)	
IPC2- The green environmental management of our firm will be influenced by regional environmental regulations (such as waste emissions, cleaner production, etc.).	[8,11,21,35,66,67]
IPC3- The green environmental management of our firm will be influenced by regional resource saving and protection regulations.	
IPC4- The green environmental management of our firm will be influenced by national resource saving and conservation regulations.	
Institutional Pressure (Normative) (IPN)	
IPN1- In order to respond to the green environmental protection tendency, our firm will consider the effect on export.	
IPN2- In order to respond to the green environmental protection tendency, our firm will consider the effect on sales to foreign customers.	[8,11,21,35,66,67]
IPN3- In order to respond to the green environmental protection tendency, our firm will consider the effect on environmental requirements from domestic customers.	
IPN4- For our firm, establishing the company’s green image is extremely important.	
Institutional Pressure (Mimetic) (IPM)	
IPM1- The green environmental management of our firm will be affected by competitors’ green environmental management protection strategy.	
IPM2- The green environmental management of our firm will be affected by substitute products’ green environmental strategy.	[8,11,21,35,66,67]
IPM3- The green environmental management of our firm will be affected by professional environmental protection groups.	
(2) Environmental Orientation (EO)	
Internal Environmental Orientation (IEO)	
IEO1- Environmental responsibility is important to our business unit.	
IEO2- Our company has clear policy statements urging environmental awareness in every area of operations.	
IEO3- Environmental protection is highly valued by our company members.	[11,19,21,65,68,69]
IEO4- Environmental responsibility is a central corporate value of our company.	
IEO5- Our company makes concerted efforts to help every employee understand the importance of environmental protection.	
External Environmental Orientation (EEO)	
EEO1- Developments in the natural environment affect our company’s business activities.	
EEO2- Our environmental responsibility affects our company’s financial performance.	
EEO3- Environmental responsibility is important to our company’s survival.	[11,19,21,65,68,69]
EEO4- The ability of our business unit to create a positive image of environmental responsibility is important.	
EEO5- Various external stakeholders expect our company to protect the environment.	
(3) Green supply chain practices	
Supplier Environmental Collaboration (SEC)	
SEC1- Our firm collaborates with suppliers to build programs to reduce or eliminate waste	
SEC2- Our firm shares environmental management techniques and knowledge.	
SEC3- Our firm monitors environmental compliance status and practices of supplier’s operations	[4,12,23,70–80]
SEC4- Our firm collaborates with suppliers to manage reverse flows of materials and packaging	
SEC4- Our firm communicates goals of sustainability to suppliers	
SEC5- Our firm helps suppliers to establish their own environmental management system	
Customer Environmental Collaboration (CEC)	
CEC1- Our firm cooperates with customers to produce eco-designs	
CEC2- Our firm cooperates with customers to design cleaner production processes	
CEC3- Our firm cooperates with customers for using less energy during products transportation	[12,23,79– 87]
CEC4- Our firm cooperates with customers with the returned products	
CEC5- Our firm cooperates with customers in reverse logistics relationships	

CEC6- Our firm applies practices to provide consumers with information on environmentally friendly products and on production methods	
CEC7- Our firm cooperates with customers for green packaging	
Internal Environmental Management (IEM)	
IEM1- Our firm emphasizes environmental management systems - ISO 14001 certification	
IEM2- Our firm emphasizes Green manufacturing	
IEM3- Our firm emphasizes Green packaging	
IEM4- Our firm emphasizes Green product use	
IEM5- Our firm emphasizes Green/Clean production	
IEM6- Our firm emphasizes Green stock practices	
IEM7- Our firm adopts total quality management with emphasis on the environment	
IEM8- Our firm emphasizes replacement of toxic inputs by environmentally correct inputs	[8,11,70,72,82,85,87– 90]
IEM9- Our firm emphasizes the use of fewer inputs to minimize environmental risks and impacts	
IEM10- Our firm emphasizes internal recycling of inputs, materials, and waste	
IEM11- Our firm emphasizes the use of ecolabels, taking into account environmental criteria	
IEM12- Our company senior managers are committed to green supply chain management	
IEM13- Our firm emphasizes cross-functional cooperation for environmental improvements	
IEM14- Our firm emphasizes environmental compliance and auditing programs	
IEM15- Our firm has pollution prevention plans	
IEM16- Our firm has a system to track environmental laws and regulations	
Eco-design (ECD)	
ECD1- Our firm emphasizes design of products for reduced consumption of material/energy	
ECD2- Our firm emphasizes design products for reuse, recycling, recovery of materials, and components	
ECD3- Our firm emphasizes design products to avoid or reduce the use of hazardous products in the manufacturing process.	[4,23,25,73,77,83– 87,91–96]
ECD4- Our firm emphasizes design products for environmentally friendly objectives	
ECD5- Our firm emphasizes design of products to reduce use of harmful/toxic material	
ECD6- Our firm emphasizes optimization of design process to reduce air emission and noise	
Reverse Logistics (RLG)	
RLG1- Our firm emphasizes reverse logistic	
RLG2- Our firm emphasizes collection and recycling of end-of-life products and materials	
RLG3- Our firm adopts establishment of a transport system for the recycling of used and defective end-of-life products	
RLG4- Our firm emphasizes the collection, management, and disposal of the product at the end of its life cycle	[12 23,25,67,78,80,85,88,92,94– 99]
RLG5- Our firm emphasizes return process of product packaging after use	
RLG6- Our firm emphasizes the recondition and refurbishing of used parts or components	
RLG7- Our firm emphasizes the resale or reuse of used parts or components	
RLG8- Our firm emphasizes the use of remanufacturing	
Investment Recovery (INR)	
INR1- Our firm emphasizes the sale of scrap, used materials, and surplus stocks	
INR2- Our firm emphasizes the recovery of company equipment at end of life	[75,76,82,91]
INR3- Our firm emphasizes the sale of unused raw materials	
Green Information Technology and Systems (GITS)	
GITS1- Our firm uses energy-efficient hardware and data centers	
GITS2- Our firm Consolidates servers using virtualization software	
GITS3- Our firm aims to reduce the waste associated with obsolete equipment telepresence systems	[22,47,100]
GITS4- Our firm supports the Cooperative Group software	
GITS5- Our firm Uses Eco-labelling of IT products	
Green Compliance (GCM)	
GCM1- Our firm compliances with environmental laws in relation to international agreements and national guidelines	
GCM2- Our firm emphasizes environmental management and Legal compliance	
GCM3- Our firm emphasizes compliance and environmental auditing programs, including environmental requirements of regulators and customers	[25,73,91,101]
GCM4- Our firm emphasizes compliance and environmental auditing for internal supplier management	
Green Purchasing (GPR)	
GPR1- Our firm adopts green purchasing or buying environmentally friendly materials	
GPR2- Our firm usually forwards notice to buyers on reduction of environmental impacts	
GRP3- Our firm establishes standards for raw materials that do not contain prohibited substances	[8,12,23 71–73,76,78,85– 87,92,95,96,102–105]
GPR4- Our firm usually pressures supplier(s) to take environmental actions	
GPR5- Our firm adopts environmental audit for suppliers’ internal management	

GPR6- Our firm adopts second-tier supplier environmentally friendly practice evaluation	
GPR7- Our firm usually provides design specifications to suppliers that include environmental requirements for purchased items	
GPR8- Our firm evaluates suppliers on the basis of specific environmental criteria	
GPR9- Our firm cooperates with suppliers who have environmental certifications such as ISO 14001	
GPR10- Our firm has partnerships with suppliers that aim to build environmental solutions and/or develop environment-friendly products	
<b>Green Manufacturing (GMF)</b>	
GMF1- Our firm strives to generate a minimum of waste and reduce environmental pollution	
GMF2- Our firm is deliberately re-manufacturing and lean production	
GMF3- Our firm adopts cleaner production	
GMF4- Our firm strives to improve capacity utilization	
GMF5- Our firm strives to reduce raw material costs, gain production efficiency, and improve their corporate image	
GMF6- Our firm aims to increase the quantity of goods delivered on time	[4,73– 76,78,86,87,89,92,95,96,106,107]
GMF7- Our firm does not use hazardous or prohibited materials during manufacturing and reduce waste during production	
GMF8- Our firm is working on Substituting toxic inputs with environmentally friendly ones	
GMF9- Our firm strives to switch from “dirty” technologies to cleaner technologies	
GMF10- Our firm aims at internal recycling of waste	
<b>Green Packaging (GPK)</b>	
GPK1- Our firm adopts environmentally friendly packaging (environmentally friendly packaging)	
GPK2- Our firm uses returnable packaging, reusable packaging, recyclable packaging	[4,12,78,108,109]
<b>Green Logistics (GLG)</b>	
<b>GLG1- Our firm uses environmentally friendly transportation</b>	
GLG2- Our firm adopts environmentally friendly distribution	
GLG3- Our firm uses green fuels such as low sulfur content and alternative fuels such as liquid natural gas.	[78,110– 112]
GLG4- Our firm supports community/environmental concerns, employee health, and safety during transportation.	
<b>Green outsourcing (GOS)</b>	
GOSS1- Our firm adopts environmental responsibility care in global outsourcing.	
GO2- Our firm aims to Display an environmentally friendly culture to all external stakeholders.	[78,95,113]
<b>Green warehousing (GWH)</b>	
GWH1- Our company adopts reducing stock levels	
GWH2- Our company adopts investment recovery (or) (selling) surplus stock/materials	[78,85]
GWH3- Our company adopts surplus capital equipment sale	
<b>(4) Firm Outcomes (FO)</b>	
<b>Environmental Performance (En. Perf)</b>	
En. Perf1- Our firm has reduced air emissions during the last three years compared to competitors.	
En. Perf 2- Our firm has reduced pollution reduction of water during the last three years compared to competitors.	
En. Perf 3- Our firm has reduced effluent wastes during the last three years compared to competitors.	
En. Perf 4- Our firm has reduced consumption of hazardous/toxic material during the last three years compared to competitors.	
En. Perf 5- Our firm has reduced the environmental accident rate during the last three years compared to competitors.	
En. Perf 6- Our firm has Improved an organization’s environmental situation during the last three years compared to competitors.	
En. Perf 7- Our firm has reduced solid wastes during the last three years compared to competitors.	[8,11,23,40,70,73– 76,86,87,92,102]
En. Perf 8- Our firm has adopted internal auditing of environmental performance during the last three years compared to competitors.	
En. Perf 9- Our firm has adopted external auditing of environmental performance during the last three years compared to competitors.	
En. Perf 10- Our firm has adopted the third-party certification of environmental practices during the last three years compared to competitors.	
En. Perf 11- Our firm has sought to improve its environmental image/position during the last three years compared to competitors.	
En. Perf 12- Our firm has reduced energy consumption during the last three years compared to competitors.	
<b>Operational Performance (O. Perf)</b>	
O. Perf1- Our firm has improved on-time delivery rate during the last three years compared to competitors.	[23,72]

O. Perf2- Our firm has decreased inventory levels during the last three years compared to competitors.
O. Perf3- Our firm has improved products' quality during the last three years compared to competitors.
O. Perf4- Our firm has reduced the scrap rate during the last three years compared to competitors.
O. Perf5- Our firm has improved product line during the last three years compared to competitors.
O. Perf6- Our firm has enhanced capacity utilization during the last three years compared to competitors.
O. Perf7- Our firm significantly has reduced lead times during the last three years compared to competitors.
O. Perf8- Our firm significantly has improved its position in the marketplace during the last three years compared to competitors.
O. Perf9- Our firm has improved its chances of successfully selling its products in international markets.
O. Perf10- Our firm has achieved operational cost savings during the last three years compared to competitors.
O. Perf11- Our firm has developed a flexible system for rapid response to changes in orders/demand during the last three years compared to competitors.
<i>Economic Performance (Ec. Perf)</i>
Ec. Perf1- Our firm decreased cost for materials purchasing and energy consumption
Ec. Perf2- Our firm decreased the fee for waste treatment and discharge
Ec. Perf3- Our firm decreased fine for environmental accidents
Ec. Perf4- Green practices have helped our firm to improve the return average on sales and investment over the past three years
Ec. Perf5- Green practices have helped our firm to improve the profit average and profit growth over the past three years
Ec. Perf6- Green practices have helped our firm to improve the average market share growth over the past three years
Ec. Perf7- Implementing green practices has improved productivity in our firm.
Ec. Perf8- Opting green practices has increased profitability in our firm.
Ec. Perf9- Green practices have helped our firm to increase market share.
Ec. Perf10- Implementing green practices has improved the earnings before interests' taxes and depreciation in our firm.
Ec. Perf11- Implementing green practices has improved the delivery time average in our firm.
Ec. Perf12- Implementing green practices has improved the payment period average in our firm.
Ec. Perf13- Implementing green practices has improved the free cash flow in our firm.
<b>Table S2: Final Table for Aspects and Practices</b>
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<i>Institutional Pressure (Coercive) (IPC)</i>
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<i>External Environmental Orientation (EEO)</i>

[4,8,9,11,23,40,49,83,86,87]

EEO1- Developments in the natural environment affect our company's business activities.
EEO2- Our environmental responsibility affects our company's financial performance.
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Operational Performance (O. Perf)
O. Perf3- Our firm has improved products’ quality during the last three years compared to competitors.
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O. Perf7- Our firm significantly has reduced lead times during the last three years compared to competitors.
O. Perf9- Our firm has improved its chances of successfully selling its products in international markets.
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O. Perf11- Our firm has developed a flexible system for rapid response to change in orders/demand during the last three years compared to competitors.
Economic Performance (Ec. Perf)
Ec. Perf4- Green practices have helped our firm to improve the return average on sales and investment over the past three years
Ec. Perf5- Green practices have helped our firm to improve the profit average and profit growth over the past three years
Ec. Perf6- Green practices have helped our firm to improve the average of market share growth over the past three years
Ec. Perf8- Opting green practices has increased profitability in our firm.
Ec. Perf9- Green practices have helped our firm to increase market share.
Ec. Perf13- Implementing green practices has improved the free cash flow in our firm.

## Study Novelty

### What is already known about the study?

- The paper investigates the role of institutional pressures and environmental orientation that how they can help the firms to implement green supply chain practices (GSCPs).
- The aim is to construct a comprehensive model which is based on institutional theory (InT) and resource-based view (RBV) that will help to study the effect of GSCPs on the performance-based outcomes of industrial firms.

### Study Contribution/Value

- The study makes contribution towards building of GSCM field by assessing how institutional pressures and environmental orientation affects companies after adopting GSCM.
- The paper provides details about performance outcomes by scattering GSCM practices as well as provide direction to managers for successful implementation of these practices.

### Practical Implications on the field of Study

- The result of the study clearly supplied assistance to managers on the basic requirements for expanding and fulfilling successful and superior value green supply chain practices in their organizations.
- The managers can improve both the productivity and efficiency of their firms in search of sustainable economic advantages, by embracing and supporting environmentally friendly practices.

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