

Supplementary Materials
SURVEY QUESTIONNAIRE

Section S1

1. Email Address: _____

Respondent Details: Please fill in details about yourself.

2. Name of the respondent (optional)? _____

3. Age of the respondent? _____

4. Gender?

(a) Male [] (b) Female []

5. Industry Experience in Years?

(a) 1-5 [] (b) 6-10 [] (c) 11-15 [] (d) 16-20 [] (e) 21-25 []
(f) 26-30 [] (g) 31-35 []

6. Your position in the company?

(a) Junior Management [] (b) Middle Management [] (c) Senior Management []
(d) Owner/Promoter/CEO [] (e) Other [] _____

7. How long have you been associated with your current company?

(a) Less than 3 Yrs. [] (b) 3 - 6 Yrs. []
(c) 6 - 12 Yrs. [] (d) more than 12 Yrs. []

8. What is your field of work?

(a) R&D/Product Design and Development [] (b) Purchasing/Supply Chain []
(c) Production/Manufacturing [] (d) Marketing and Sales []
(e) Information Technology [] (f) Human Resource Management []
(g) Finance [] (h) Other [] _____

Company Details: Please fill in details about the company you are associated with.

9. Name of the Company (optional)? _____

10. To which region in India, does the company belong?

(a) Eastern [] (b) Western []
(c) Northern [] (d) Southern []

11. Type of Company?

(a) Automobile [] (b) Electrical and Electronics
(c) Machinery [] (d) Chemical []
(e) Process [] (f) Other [] _____

12. What is your company's annual sales turnover (in Million INR)?

(a) Less than 50 [] (b) 51 to 100 []
(c) 101 to 500 [] (d) 501 and above []

13. Number of employees in the company?

(a) Less than 50 [] (b) 51 to 100 []
(c) 101 to 200 [] (d) 201 and above []

14. Please specify your parent company.

(a) Indian [] (b) European []
(c) Japanese [] (d) USA []

(e) Other [] _____

Section S2

Industry 4.0 Practices (IN) - Rating Scale

19. How do you rate the importance/agreement/implementation of the following practices of Industry 4.0 Practices in your company?

(1 – Very Low to 5 – Very High)

IN1	Installation of cyber devices to machine/physical components	1	2	3	4	5
IN2	Use of advanced robotics to minimize human intervention	1	2	3	4	5
IN3	Smart logistics that reacts to changes in production capacity and demands	1	2	3	4	5
IN4	Data collection from machines using big data and cloud computing	1	2	3	4	5
IN5	Real-time simulation of collected data	1	2	3	4	5
IN6	Training of workforce by virtual reality and dynamic simulation techniques	1	2	3	4	5
IN7	Integration of assets located at individual plants	1	2	3	4	5
IN8	Adoption of flexible and reconfigurable manufacturing systems	1	2	3	4	5

Sustainable Operations (SO) - Rating Scale

21. How do you rate the importance/agreement/implementation of the following practices of Sustainable Operations (SO) in your company?

(1 – Very Low to 5 – Very High)

SO1	Use of renewable materials in product design and manufacturing	1	2	3	4	5
SO2	Modification of production processes to reduce the use of energy and water	1	2	3	4	5
SO3	Enhancement of product life by design changes	1	2	3	4	5
SO4	Measuring of the carbon footprint of the company	1	2	3	4	5
SO5	Use of optimal and efficient logistic transportations	1	2	3	4	5
SO6	Minimization of waste production across the supply chain	1	2	3	4	5
SO7	Remanufacturing and recycling of returned products/goods	1	2	3	4	5
SO8	Reduction in the emission of solid, liquid and vapour by products/wastes	1	2	3	4	5

Operational Excellence (OE) - Rating Scale

How do you rate the level of achievement of **Operational Excellence (OE)** by implementation/adoption of the practices of Industry 4.0 and Sustainable Operations in your company?

(1 – Very Low to 5 – Very High)

OE1	Improve Process management	1	2	3	4	5
OE2	Increase in the flexibility of operations	1	2	3	4	5
OE3	Timely delivery of customer's goods and services	1	2	3	4	5
OE4	Increase in proficiency and company profits	1	2	3	4	5
OE5	Better performance management	1	2	3	4	5