

Supplementary Materials: The Influencing Factors of Enterprise Sustainable Innovation: An Empirical Study

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Supplementary 1. Enterprise Sustainable Innovation Factors Questionnaire

Dear Sir/Madam:

Hello!

First of all, thank you very much for taking the time to fill in this questionnaire!

We are doing a research project on “Enterprise Sustainable innovation factors”. Through your answers to the following questions, it can help us in-depth study of factors affecting enterprise sustainable innovation. We assure you: This survey results for research purposes only and strictly confidential. Please fill in your enterprise information according to the actual situation.

Thank you for your support and cooperation!

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Questionnaire

According to the actual condition, please play “√” in the appropriate option. Fully in line with (the highest) of 5 points, the total not comply with (minimum) for 1 point and so on.	Greatly	To Relatively Large Degree	To Some Degree	To a Small Degree	Not at All
Knowledge Learning Capability					
high degree of Information	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
employees often use the information platform to do their jobs	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
the information platform is well managed	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
the employees have high R&D capability	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Knowledge Creation Capability					
enterprise has applied many important patents	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
enterprise has great R&D input	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
enterprise has high R&D risk	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Production Equipment Level					
the production equipment is advanced	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Knowledge Transferring Capability					
enterprise has influential brand	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
enterprise is good at utilizing technology	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
the production managers have high quality	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

Profit-Making Capability					
the profits increase quickly	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
new products are important growth engines of enterprise profits	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Marketing Capability					
enterprise has advanced market network	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
sales people of the enterprise has high capability	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Sustainable Innovation Capability					
enterprise has high knowledge innovation capability	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
enterprise has high production innovation capability	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
enterprise has high market innovation capability	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

Supplementary 2. The Equation of System Dynamics Model

1. Enterprise capability = INTEG (The sustainable innovation capability, 300).
2. Expenditure input = employee salary + hardware purchase + training cost.
3. Knowledge collecting capability = (information platform management + information platform use) * degree of Information.
4. Knowledge creation capability = expenditure input * "R&D employee capability" * risk factors + number of patent.
5. Knowledge innovation capability = knowledge learning capability + knowledge creation capability - Knowledge level.
6. Knowledge learning capability = knowledge collecting capability + "R&D employee capability".
7. Knowledge level = INTEG (Knowledge innovation capability, 100).
8. Knowledge transferring capability = the number of brands + the capability of production knowledge employees * transferring risk.
9. Market innovation capability = marketing capability + "profit-making capability" - Market level
Market level = INTEG (Market innovation capability, 100).
10. Marketing capability = marketing employee capability * marketing network.
11. marketing employee capability = \sum number of marketing staff with education below bachelor degree * 0.5 * "working years of R&D staff" * "R&D motivation level" + \sum number of marketing staff with bachelor degree * 1 * "working years of R&D staff" * "R&D motivation level" + \sum number of marketing staff with master degree * 1.5 * "working years of R&D staff" * "R&D motivation level" + \sum number of marketing staff with doctoral degree * 2 * "working years of R&D staff" * "R&D motivation level".
12. Production innovation capability = equipment level + knowledge transferring capability - Production level.
13. Production level = INTEG (Production innovation capability, 100).
14. "profit-making capability" = profits increase + sales revenue of new products.
15. "R&D employee capability" = \sum number of R&D staff with education below bachelor degree * 0.5 * "R&D motivation level" * "working years of R&D staff" + \sum number of R&D staff with bachelor degree * 1 * "R&D motivation level" * "working years of R&D staff" + \sum number of R&D staff with master degree * 1.5 * "R&D motivation level" * "working years of R&D staff" + \sum number of R&D staff with doctoral degree * 2 * "R&D motivation level" * "working years of R&D staff".
16. the capability of production knowledge employees = \sum number of production knowledge staff with education below bachelor degree * 0.5 * "working years of production knowledge employees" * "motivation level of production knowledge employees" + \sum number of production

knowledge staff with bachelor degree *1*working years of production knowledge employees**motivation level of production knowledge employees"+∑number of production knowledge staff with master degree *1.5*working years of production knowledge employees**motivation level of production knowledge employees"+∑number of production knowledge staff with doctoral degree *2*working years of production knowledge employees**motivation level of production knowledge employees".

17. The sustainable innovation capability = Knowledge innovation capability +Market innovation.
18. Capability + Production innovation capability-Enterprise capability.
19. Training cost = training frequency*input intensity.