

Karl Popper's Falsification In Implementation Management Chain Green Supply

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ABSTRACT

Research This aim For analyze How draft Karl Popper's falsification can implemented in implementation management chain supply green. The method used is a literature study and content analysis. The results of the research obtained that Implementation paradigm Karl Popper's falsification in GSCM provides framework strong work For ensure that initiative green based on evidence empirical that can tested. Research conceptual about falsification in GSCM opens opportunity big For study empirical continued.

Keywords: Falsification; Popper; Paradugn; Philosophy; GSCM

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Introduction

In the world of science knowledge, Karl Popper is known as one of the philosopher prominent person who proposed draft falsification as method For differentiate between knowledge knowledge and pseudo- knowledge. According to Popper, a theory scientific must is falsifiable, namely can tested and potential For proven wrong. The concept This become runaway important in method scientific, encouraging scientists For Keep going testing and validating theories they through rigorous experimentation and observation.

On the other hand, management chain supply green (Green Supply Chain Management - GSCM) increasingly become attention major in various industry. (Khan S. A., 2020) GSCM refers to the management of chain supply that pays attention impact environment and aims For minimize footsteps ecological through practices sustainable. In context this industry try reduce waste, emissions carbon, and use source power that is not efficient, while still maintain efficiency operational and profitability.

Implementation Karl Popper's falsification in GSCM can give critical and scientific approach in evaluate effectiveness various practice green. With use principle falsification , company can test hypothesis about benefits and success GSCM practices, as well as Keep going repair approach they based on results empirical.

This study aim For analyze How draft Karl Popper's falsification can implemented in implementation management chain supply green. With identify challenges and opportunities in approach this, it is hoped can give outlook new for industry in developing supply chain strategies more supply sustainable and effective.

Theoretical Basis

Supply Chain Management is something draft or mechanism For increase productivity all over incorporated companies in chain supply through optimization quality and time. Supply Chain Management is function vital business for coordinate management flow goods and is key competition (competitive weapon).

Green Supply Chain Management (GSCM)

Green Supply Chain Management (GSCM) is approach management chain integrated supply consideration environment in all aspect operational. GSCM includes design product , selection material raw materials, production process, packaging, distribution, to management waste (Rameshwar, Gunassekaran , & Pupadopoulos, 2016)

Objective GSCM's main objective is For reduce impact environment from activity chain supply while still maintain efficiency and effectiveness operational . According to Khan, the practices in GSCM includes use energy renewable, recycled repeat materials, reduction emission carbon , and optimization logistics (Khan, Husain, & Ajmal).

GSCM includes Lots thing, between other :

1. Green Design (Green Design). This refers to the design process product or services that take into account impact environment from early, such as use material friendly environment, easy design recycled repeat, and efficiency energy.
2. Green Supplier. Involving election compliant suppliers standard environment certain, such as use material sustainable raw materials, environmentally friendly production processes environment, and compliance to regulations environment.
3. Green Purchase. Refers to the practice of priority purchases products and services from committed supplier to practice good environment, as well as reduce waste and use source Power.
4. Green Manufacturing. This covers implementation of environmentally friendly production processes environment, such as use energy renewable, management effective waste management, and improvement efficiency operational.
5. Green Packaging. Involves use friendly packaging environment, such as material recycling recycle, packaging minimalism, and reduction waste packaging.
6. Green Warehouse. This related with practice management sustainable warehouses, such as use technology For efficiency storage and delivery, management proper waste management, and compliance to regulations environment.
7. Green Transport. Refers to the selection of fashion friendly transportation environment, such as transportation general, use vehicle electricity or material burn alternative, optimization routes, and reduction emissions.
8. Green Customer. This covers effort For educate and involve customer in sustainable practices , such as use return product, reduction waste, and support to committed brand to environment. (Achillas, Aidonis, Bochtis, & Folinas, 2019).

Draft Karl Popper's Falsification

Karl Popper, a philosopher knowledge knowledge, introducing draft falsification as method For differentiate between knowledge knowledge and pseudo- knowledge. According to Popper, a theory scientific must can tested and potential For falsifiable. Principle falsification emphasize importance testing empirical and courage For accept possible outcomes No in accordance with hope beginning . In context this , the theory that is not can tested or proven wrong or not considered as theory scientific .

The Relationship between GSCM and Popper's Falsification

Implementation Karl Popper's falsification in GSCM offers approach critical and scientific For evaluate effectiveness and sustainability practice chain supply green. With use principle falsification, company can test hypothesis about benefit environment from various GSCM initiative. As expressed Rameshware Dubai that SCM has develop to become SSCM and GSCM are A journey, guided by pressure institutional and interests personal company, for put concepts this is between philosophy guide companies operating in today 's global environment This. (Rameshwar, Gunassekaran , & Pupadopoulos, 2016).

RESEARCH METHODS

This Study try discuss and explain Karl Popper's thoughts on falsification in Green Supply Chain Management . Study This use Karl Popper's thoughts as tool analysis For discuss falsification Green Supply Chain . Review in study This use books and articles as source studies literature on the topic discussed, as well as content analysis with reading material thinking study previously used as approach integrative and meaningful substance .

DISCUSSION

Following this explanation more carry on about implementation Karl Popper's falsification in management chain supply green (Green Supply Chain Management) :

1. Concept Falsification in GSCM Context

Falsification, as concept proposed by Karl Popper, works as runway For verify theories and hypotheses through testing rigorous empirical. In context Green Supply Chain Management (Al-Ayed & Al-Tit, 2023) falsification can implemented For ensure that the strategies and practices implemented of course give impact positive to environment and operations company. With Thus, every GSCM initiatives must Can tested its truth and proven wrong if No fulfil hope (Birasnav, Chaudary, Dunne, Bienstock , & Seaman, 2022).

2. Implementation Falsification in GSCM Strategy Development

a. Formulation Hypothesis in GSCM: Companies can develop hypothesis specific related GSCM initiatives. Examples hypothesis : " Implementation IoT technology in management logistics will reduce emission carbon by 20% in One year ." Hypothesis This must concrete and contains variables that can measured in a way quantitative.

b. Data Collection and Testing Empirical : For test hypothesis, company must Collect before and after data implementation IoT technology. Relevant data Possible covers amount emission carbon, efficiency energy and costs operational analysis statistics used For determine whether observed changes significant and can associated direct with implementation IoT technology (Al-Ayed & Al-Tit, 2023).

c. Evaluation and Falsification Hypothesis : If the data shows that emission carbon No reduce by 20%, hypothesis beginning must falsified. This process important Because push company For look for solution alternative or repair approach they based on results empirical .

3. Benefits Implementation Falsification in GSCM

a. Validation Green Practices :

Implementation falsification ensure that only proven practices effective adopted in operation chain supply green. This help avoiding pseudo- knowledge and ensuring that decision based on solid evidence.

b. Improvement Sustainable :

Testing and evaluation process Keep going continuously allows company For improve and optimize their GSCM strategy. By Thus , the company can reach efficiency more operational height and impact a better environment positive in a way sustainable .(Bhagwat & Sharma, 2007)

c. Advantages Competitive :

Companies that use approach scientific in GSCM can build strong reputation as responsible organization answer in a way environmentally friendly and efficient . This No only increase image company but also can increase profitability through subtraction costs and improvements efficiency (Khan S. A., 2020).

4. Challenges in Apply Falsification in GSCM

a. Data Availability and Quality : Collection of accurate and relevant data can become challenges, especially in complex environments like chain supply. The company needs invest in system good data management and technology like IoT for get data that can reliable .

b. Resistance to Change : Implementation approach falsification Possible face resistance from parties who have used to with method Work traditional. Important For educate and involve all over stakeholders interest in this process For ensure success implementation.

c. Complexity Testing : Testing hypothesis in context dynamic and diverse operations can become very complex. Companies need to develop methodology flexible testing However remains valid for overcome this challenge.

With integrate Karl Popper's falsification in implementation of GSCM, company can ensure that initiative the green they run No only just fulfil demands regulations or market trends, but truly give impact measurable positive. Approach This push innovation sustainable and provide runway strong scientific For decision managerial in effort reach sustainability and efficiency operational (Mashat, Abourobah, & Salam , 2024)

Result

Paradigm Karl Popper's Falsification In Implementation Green Supply Chain Management (GSCM)

Karl Popper is known Because introduction draft falsification as method For differentiate between knowledge knowledge and pseudo- knowledge. According to Popper, a theory scientific must is falsifiable, namely can tested and have potential For proven wrong. Paradigm This emphasize importance testing empirical and courage For accept possible outcomes No in accordance with hypothesis beginning. Implementation draft falsification This can give solid foundation in evaluate and develop Green Supply Chain Management (GSCM).

Falsification in GSCM Context

Green Supply Chain Management (GSCM) is approach management chain integrated supply consideration environment in all over aspect operational, from design product until management waste. GSCM aims For reduce impact environment negative while still guard efficiency and profitability. With increasing awareness will importance sustainability, many companies that adopt GSCM practices. However, without scientific and critical approach, effectiveness from practices this can doubtful .

Here it is paradigm Karl Popper's falsification plays a role. With apply falsification, company can ensure that every initiative the green they run truly give benefit real environment and operations. This process involving a number of step key; formulation hypothesis, testing empirical, evaluation results, and improvements sustainable.

Formulation Hypothesis in GSCM

First step in implementation falsification is formulation clear and testable hypothesis tested. For example, a company Possible submit hypothesis that " the use of material standard renewable will reduce footsteps carbon company by 30% in One year." Hypothesis This must concrete and contains variables that can measured in a way quantitative.

Testing Empirical and Evaluation

After the hypothesis formulated, steps next is data collection and testing empirical. Relevant data, such as amount emission carbon before and after implementation material standard renewable, must collected and analyzed. Analysis statistics used for determine whether observed changes significant and can associated direct with the GSCM initiative. If the data shows that subtraction emission no reached 30%, hypothesis beginning must falsified and evaluated return.

Improvement Sustainable

Testing and evaluation process This allows company For Keep going improve and develop their GSCM strategy. For example, if use material standard renewable no give expected results, company can look for alternative others, such as technology processing more waste efficient or method more logistics friendly environment. With method this, approach falsification push innovation sustainable and development more practices effective (Terrada, Bakkoury, El-Khalili, & Alloubane, 2018).

Benefit Paradigm Falsification in GSCM

Implementation paradigm falsification in GSCM has a number of benefit main. *First*, this ensure that only proven practices effective adopted, avoiding pseudo - knowledge that can harm company. *Second*, this push company for invest in more data collection and analysis good, improve ability they for make decision based on strong evidence. *Third*, this allows improvement sustainable through cycle continuous testing and evaluation continuously, which in the end can increase efficiency operational and profitability company.

Challenge in Implementation Falsification

Although Lots benefits, implementation falsification in GSCM no without challenges. Accurate and relevant data collection become difficult, especially in complex environments like chain global supply. In addition, resistance to change and complexity testing hypothesis in context dynamic operations can also be become obstacles. Therefore, the company need develop methodology flexible testing but valid, and involving all over stakeholders interest in this process For ensure success implementation.

CONCLUSION

The application of Karl Popper's falsification paradigm to GSCM provides a robust framework to ensure that green initiatives are based on testable empirical evidence. With this approach, companies can improve the effectiveness and efficiency of their GSCM practices, foster innovation, and achieve long-term sustainability. Furthermore, this conceptual research has great potential to be developed into more in-depth empirical research, which can enrich the understanding and practice of GSCM.

IMPLICATIONS FOR FURTHER RESEARCH

This conceptual research on falsification in GSCM opens up significant opportunities for further empirical research. Case studies, empirical model development, and long-term impact measurement are some areas that could be further explored to enrich the literature and practice of GSCM.

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