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Understanding Ethical Failure Factors In Humanitarian Logistics

Muhammad Khan[1] , Afifa Anjum Khattak[2] , Dr. Mehboob Ur Rashid[3] , Dr. Arif Hussain[4] , Qazi Waseem Jan[5] , Zia Ur Rahman[6] , Abbas Ali[7]

[1]Institute of Business Studies and Leadership, Abdul Wali Khan University Mardan, Mardan 23200, Pakistan.

[2]Lecturer, Institute of Management Studies University of Peshawar.

[3]Assistant Professor, Institute of Management Studies University of Peshawar.

[4]Assistant Professor, Institute of Business Studies and Leadership, Abdul Wali Khan University, Mardan.

[5]PhD scholar, Institute of Business Studies and Leadership, Abdul Wali Khan University Mardan.

[6]PhD scholar, Institute of Business Studies and Leadership, Abdul Wali Khan University Mardan.

[7]Business and Legal Studies Department, University of Siena Italy, 53100 Siena, Italy.

Abstract: This study aims to discover ethical failure factors in humanitarian coordination (HL) and their relationship. Using interpretive structural modeling (ISM) and cross-impact matrix multiplication classification (MICMAC) to create a hierarchy model. This study identified elements that can be considered as barriers to ethical practice in HL and used the ISM technique to determine variables with perfect control, low reliance, and strategic significance. The hierarchy of variables is a valuable tool for all stakeholders of catastrophe, specifically for governments, funders, and humanitarian organizations (HOs) to focus on the identified components to overcome the inhibitors to ethics in HL process as they seek methods for fast, fair, and safe HL. This work extends a hierarchy-based model of inhibitors to HL ethical practice using ISM which has not been never before studied.

Keywords: Ethics, Humanitarian Logistics (HL), Disaster Relief Operations (DRO), Interpretive Structural Modeling (ISM)

1. Introduction

Disasters bring adversity and misery for people(Bealt, Fernández Barrera, & Mansouri, 2016; Khan, Lee, & Bae, 2019), and lead to human, material, and financial losses that are difficult for a population to control with its resources. Nearly two billion people in poor countries have been affected by climate change threats in recent years(Khan, Imtiaz, Parvaiz, Hussain, & Bae, 2021; Khan, Lee, et al., 2019). Disasters produce disabilities, deaths, casualties, and asset losses, impacting people financially and emotionally. Today, the globe has a tremendous challenge to properly handle disasters, reduce people's vulnerability, and assess disaster's effects on long-term social welfare and economic progress(Khan, Parvaiz, et al., 2022).

HL plays a crucial role in disaster relief operations (DRO) (Khan, Yong, & Han, 2019; Vitoriano, Ortuño, Tirado, & Montero, 2011), as logistics accounts for 80% of the entire DRO(Nurmala et al., 2017). Furthermore, around 40% of HL is squandered(Bealt et al., 2016). (Nurmala et al., 2017)despite logistics' essential position in DRO, HL receives less attention from organizations(Khan, Lee, et al., 2019). There is a need for efficient HL to make sure it is quick, fair, and secure due to resource mismanagement. As a result, funders and other stakeholders put a lot of pressure on for-profit and charity organizations involved in DROs around the world to provide quick, equitable, and secure DROs in all regards, particularly HL(Khan, Khan, et al., 2022). HL is the technical (Rabta, Wankmüller, & Reiner, 2018) and an umbrella term (Khan, Lee, et al., 2019)that includes planning, procurement, storage, inventory management, transportation, and distribution from the beginning point to the disaster-prone area (Khan, Lee, et al., 2019; Rabta et al., 2018)to assess the victims' cost-efficiently(Khan, Lee, et al., 2019). HL effectiveness can be measured in lives lost and suffering(Apte, Gonçalves, & Yoho, 2016; Day, Melnyk, Larson, Davis, & Whybark, 2012).Due to an increase in disasters and the necessity for relief products, the HL has become a source of unethical behavior. Every human activity creates ethical problems regarding 'good' and 'right' ways to act and live or questions of values and responsibilities. Since its debut, DROs have asked questions about professional behavior, handling preferences, societal roles, intervention methods, and analytical content. Ethical dilemmas lie at the heart of the big political and commercial challenges of the day, except DROs: economic development and instability, inequality and injustice, environmental degradation, and sustainability. They are also key to day-to-day DRO decisions. Ethical concerns pertain not only to individual beliefs, worldviews, and patterns of existence that condition what people consider good and reasonable action but also to the handling of conflicts between diverse individual concepts of the good(Ormerod & Ulrich, 2013). Ethics is an effective way for DROs to raise awareness among all parties. So, the main goal of this study is to offer variables for the lack of ethical practice in HL and identify their links. Specifically, this study answers the following questions:

How may practitioners recognize and develop an ethical practice for HL effectiveness?

Which variables limit ethical HL practice?

How do these elements interact? "How can these variables be ranked?"

To achieve these goals, the research extends a graph-based ISM to visually explore obstacles to sustainability. Shin & Park(Shin & Park, 2019)revealed that ISM was used to investigate application interrelationships and measure supply chain (SC)ethical failure factors.

This study helps academics and professionals understand ethical failure factors in HL. It raises awareness of the significance of evaluating decisions linked to relief materials' SC and gives researchers instructions on the basic ethical issue to be examined. The work advances current theories and introduces guidelines for improving DRO. We discuss implications for catastrophe risk management and constraints for developing more ethical HL operations.

The study is organized as follows. We detail materials and methods in Section 2. In part 3, we apply the technique. In section 4, we offer results, discussion, implications, and limitations followed by conclusion and references.

2. Materials and Methods

2.1.Literature Review

The factors of HL's ethical failure are the main topic of this section. The research that was taken into consideration was from area of SC and ethics. The procedures and interests connected to ethics in DRO were highlighted in the literature analysis. The papers that are pertinent to ethical SC are examined to identify the knowledge gaps.

Of course, in a time of ethical plurality, experts should not be the ones to tell people what is morally right and appropriate for them. However, accepting ethical diversity does not justify for not including moral considerations in what we perceive to be competent professional involvement. Contrarily, moral thinking and reasoning are important because we live in an era of ethical plurality and need to provide everyone the opportunity to express and, with appropriate respect for others' differing ideas and beliefs, practice their conceptions of what is right. Rigorous moral inquiry is crucial in situations when ethical difficulties occur. After reviewing numerous company failures around the world, the International Federation of Accountants (IFAC) identified five significant organizational problems in July 2003. An advice for more effective corporate ethics rules was included in the study's findings (Jackling, Cooper, Leung, & Dellaportas, 2007).

2.1.Identifying the ethical failure factors in humanitarian logistics (HL)

The challenges of the HL are the main topic of the section. These difficulties exacerbate the wasting of limited resources and cause environmental impact. Numerous papers have offered frameworks, strategies, and quantitative answers to reduce waste. Rarely have efforts been made to address the ethical failure factors in HL process.(Sarkis, Spens, & Kovács, 2013)have provided suggestions for getting rid of the barriers to green exercise in DRO. This article identified numerous inhibitors but never attempted to determine their level of influence. In order to develop the operational performance of the HL in relation to ethics through identified ethical failure factors, this study prefers to adopt quantitative (ISM & MICMAC) methodologies.

The operating and logistical characteristics of the HL are discussed in this section. For the sake of this work, the HL can be defined as the refined process and institutions that mobilize people, resources, expertise, and knowledge to aid those who are suffering from tragedy. The literature produced a list of twelve ethical failure criteria in the HL. It is not an easy to convert the HL process into an ethical process. Through the brainstorming process, these twelve extremely important variables were found. The brainstorming strategy and these determined variables are covered in more detail below. The list of ethical failure factors was finalized after a discussion with a panel of ten experts.

2.2.The brainstorming method

The first and second steps are covered by the brainstorming approach, following the step-by-step guidelines of this methodology. Academic specialists with research interests in SC and officers with administrative expertise in the relevant sector were consulted for this study's purpose in order to determine the proper association among the ethical failure factors in HL. Academicians and staff members from HOs were both chosen for the brainstorming session to choose the ethical failure factors in HL based on their availability and experience. Participants were sent readings on ethical failure factors and HL in advance of the workshop so they could become familiar with these topics. It was also requested in particular of experts to concentrate on the variables found in the studies of (Jackling et al., 2007; Khan, Hussain, et al., 2020; Khan, Sarmad, Shah, & Han, 2020)in order to understand the ethical factors in HL. To find out how the chosen specialists felt about the place of ethics in HL, a casual visit was made to their organizations. For participation in this activity, which is scheduled to take place in Pakistan in January 2022, official invitations were extended to the chosen individuals. Only ten of the seventeen specialists showed up, while seven of them were absent, due to their hectic schedules. These participants were business researchers, chief executive officers, and administrators overseeing SC for their respective firms; for detailed participant profiles, see Table 1.

Table 1: Profile and description of the participants

S/No	Sector	Position	Experience
1	International Humanitarian Organization (IHO)	Logistician	8 Years
2	IHO	Transportation	3 Years
3	Local nongovernmental organization (LNGO)	Procurement Officer	4 Years
4	LNGO	Procurement Officer	6 Years
5	LNGO	Logistics Manager	9 Years
6	LNGO	Operation Manager	6 Years
7	Academic	Professor in the Field	15 Years
8	Academic	Assistant Professor in the field	13 Years

9	Academic	Assistant professor in the Field	9 Years
10	Government Administrator	National Disaster Management Authority Officer	8 Years

In the first part of the technique, material related to ethics and HL was emailed to the experts in advance of the brainstorming session to gain understanding of the ethical failure factors in HL. They were asked to look for ethical failure reasons in HL during the workshop. There were agreed upon twenty-one inhibitors after three sessions, which were reduced to twelve as some were merged and others overlapped. After the first session was completed, the resource people were requested to identify the connections between these twelvefactors, which is thought of as the second phase of the suggested process. Table 2 lists these factors.

Table 2: Ethical failure factors

S/No	Name	References
1	Self Interest	(Jackling et al., 2007)
2	Unfairness	(Jackling et al., 2007).
3	Inappropriate Monitoring	(Khan, Hussain, et al., 2020)
4	Temporary Workers	(Khan, Hussain, et al., 2020)
5	Lack of Ethical Sensitivity	(Jackling et al., 2007)
6	Improper Leadership	(Khan, Hussain, et al., 2020)
7	Multiple Stakeholders	(Khan, Hussain, et al., 2020)
8	Lack of Information Technology	(Khan, Hussain, et al., 2020)
9	Lack of Ethical Framework	(Khan, Hussain, et al., 2020)
10	Education/Training	(Khan, Sarmad, et al., 2020)
11	Lack of Coordination	(Khan, Hussain, et al., 2020)
12	Level of Control	(Khan, Sarmad, et al., 2020)

A second meeting was held to frame the relationships among these factors because the first one failed to do so. A list of variables was accepted for this session, and a graphic showing the interrelationship was distributed among the attendees for feedback. The final interrelationships were created with mutual accord among these resource people, as opposed to some disagreement over the associations among the inhibitors during the initial debate. Participants' agreement on

these twelve factors led to the use of ethical failure factors to further develop the ISM-based model. According to their range of influence, the discovered ethical failure factors can be classified into various classes (see Table 3).

2.3.ISM methodology and Building the ISM model

Several factors, called ethical failure factors in HL, are revealed in the brainstorming section above. Understanding the contextual relationships between these variables is crucial. Applying the ISM methodology, which can successfully highlight these interrelationships, is the ideal way to accomplish this.

Resource people are required to explain whether and how these factors are associated, making this ISM technique understandable. It is structural because a full construct is created from the complex set of factors based on their interactions. ISM is a modeling technique because a digraph contains a complete description of the mechanism. Although this method is designed for group learning, it can also be used alone. This approach takes into account the subsequent phases.

Step 1 involves using the brainstorming technique to identify the variables affecting the ethical failure elements in HL (See Table 2)

Step 2. To determine which pairs of factors will be portrayed, a structural link is built between the identified with holders gained in the first step.

Step 3: To reflect the doublet associations of the ethical failure factors of the structure under examination, a structural self-interaction matrix (SSIM) is constructed for the variables (See Table 3).

Step 4 involves framing a reachability matrix from the SSIM and checking it for transitivity. The fundamental premise of ISM for the transitivity of the contextual interrelationship is that L and N must be associated if a factor L is related to M and if M is related to N.

The framed reachability matrix is further segmented into six levels in step 5 of the process (see tables 5 to 9 Iteration i-v).

Step 6: In this step by pairing factors nodes with statements, from the reachability matrix, a direct graph is framed and the associations of transitive are removed (See Figure 1).

Step 7: In this step, the digraph created in step 6 is converted into an ISM model (see Figure 2)

Step 8: The ISM model is checked for any conceptual errors and for modifications that may be required.

3. Application of the Proposed Approach

3.1.Structural Self-Interaction Matrix (SSIM)

Utilizing the SSIM technique was the third stage. A structural interrelationship of the exasperate type was selected to explore the twelve ethical failing factors in HL. The presence of a connection between any two factors (i and j)and the related order of the association are analyzed while taking into account the relevant relation for each factor. To depict the relationship between the factors (i and j), four indicators are used(i and j):

V: factor i will strengthen factorj.
A: factor j will strengthen factori.
X: factors i and j will strengthen each other; and
O: factor i and j are independent.

Table 3: Structural Self-Interaction Matrix (SSIM)

pi Factors	pj Factors											
	12	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
1. Self Interest	X	A	A	A	A	X	V	V	V	V	X	1
2. Unfairness	A	X	A	O	X	A	V	V	V	X	1	
3. Inappropriate Monitoring	O	A	A	O	O	O	O	V	X	1		
4. Temporary Workers	A	A	A	O	O	O	A	V	1			
5. Lack of Ethical Sensitivity	A	A	A	O	A	O	X	1				
6. Improper Leadership	X	A	A	X	X	A	1					
7. Multiple Stakeholders	A	A	A	A	O	1						
8. Lack of Information Technology	O	V	X	V	1							
9. Lack of Ethical Framework	A	A	X	1								
10. Education/Training	V	V	1									
11. Lack of Coordination	V	1										
12. Level of Control	1											

3.2.Reachability Matrix

In order to create a key reachability matrix from SSIM, the SSIM is transformed into a two-fold matrix in the fourth phase. Thus, by substituting the four SSIM symbols (V, A, X, or O) at the 1s or 0s, SSIM is converted into the primary reachability matrix.
The following guidelines apply to this substitution (V, A, X, and O by 1 or 0 as appropriate):
(1) In the SSIM, if the (i, j) sign is V, then the (i, j) digit in the reachability matrix must be 1 and the (j, i) digit must be 0.
(2) If the (i, j) sign in the SSIM is A, then the (i, j) digit in the reachability matrix must be 0 and the (j, i) digit must be 1.
(3) If the (i, j) sign in the SSIM is X, then (i, j) digit in the reachability matrix has to be 1 and the (j, i) digit sought also be 1.
(4) If the (i, j) sign in the SSIM is O, then the (i, j) digit in the reachability matrix must be 0 and the (j, i) digit must also be 0.
Following integration of the transitivity (i.e., if an inhibitor R is connected to S and S is connected to T, then R and T are unquestionably connected), the rules are to construct the final reachability matrix, as shown in Table 4.

Table 4: Final reachability matrix

	pj Inhibitors												
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Driver**
1. Self Interest	1	1	1	1	1	1	1	0	0	0	0	1	**8**
2. Unfairness	1	1	1	1	1	1	0	1	0	0	1	0	**8**
3. Inappropriate Monitoring	0	1	1	1	1	0	0	0	0	0	0	0	**4**
4. Temporary Workers	0	0	1	1	1	0	0	0	0	0	0	0	**3**
5. Lack of Ethical Sensitivity	0	0	0	0	1	1	0	0	0	0	0	0	**2**
6. Improper Leadership	0	0	0	1	1	1	0	1	1	0	0	1	**6**
7. Multiple Stakeholders	1	1	0	0	0	1	1	0	0	0	0	0	**4**
8. Lack of Information Technology	1	1	0	0	1	1	0	1	1	1	1	0	**8**
9. Lack of Ethical Framework	1	0	0	0	0	1	1	0	1	1	0	0	**5**
10. Education/Training	1	1	1	1	1	1	1	1	1	1	1	1	**12**
11. Lack of Coordination	1	1	1	1	1	1	1	0	1	0	1	1	**10**
12. Level of Control	1	1	0	1	1	1	1	0	1	0	0	1	**8**
Dependence	**8**	**8**	**6**	**8**	**10**	**10**	**6**	**4**	**6**	**3**	**4**	**5**	

Each factor's driver and reliance are shown in Table 4. The driver for those particular variables is that which has an impact on the container itself. However, the dependent factors for that specific factor are those that are impacted by how it contains itself. Both of these capacities are used in the MICMAC test, which divides the factors into four groups: autonomous, interconnected, dependent, and independent inhibitors.

3.3.Level partitions

The reachability and antecedent sets for each factor are in Table 4. The factors themselves and the additional aspects they might influence are both included in the reachability set. As a result, R (pi) must be established as the set of factors that are accessible from pi in order to define reachability for each factor pi. The final reachability matrix for pi's row of interest in Table 4 can be used to define R (pi). A suitable entry in the R (pi) column of the Iteration table is then added to incorporate the factor that the column denotes.

Table 5: Iteration i

Factors pi	Reachability Set R(pi)	Antecedent Set A(pi)	Intersection Set R(pi) ∩ A(pi)	Level
1	1,2,3,4,5,6,7,12	1,2,7,8,9,10,11,12	1,2,12	
2	1,2,3,4,5,6,8,11	1,2,3,7,8,10,11,12	1,2,3,11	
3	2,3,4,5	1,2,3,4,10,11	2,3,4	
4	3,4,5	1,2,3,4,6,10,11,12	3,4	
5	5,6	1,2,3,4,5,6, 8,10,11,12	5,6	**I**
6	4,5,6,8,9,12	1,2,5,6,7,8,9,10,11,12	5,6,8,9,12	**I**
7	1,2,6,7	1,7,9,10,11,12	1,7	
8	1,2,5,6,8,9,10,11	2,6,8,10	2,6,8,10	
9	1,6,7,9,10	6,8,9,10,11,12	6,9,10	
10	1,2,3,4,5,6,7,8,9,10,11,12	8,9,10	8,9,10	
11	1,2,3,4,5,6,7,9,11,12	2,8,10,11	2,11	
12	1,2,4,5,6,7,9,12	1,6,10,11,12	1,6,12	

The inhibitors themselves and the inhibitors that they might affect are also included in the antecedent set. An antecedent set a (pj), which is the set of inhibitors that approaches an inhibitor pj, can be defined for each inhibitor pj. By looking at the column that agrees with pj, A (pj) can be defined. The inhibitors that each row in column pj of the final reachability matrix signifies are found in A (pj), and for the complete set of inhibitors when I = j, A (pi) = A. (pj).

Table 6: Iteration ii

Factors pi	Reachability Set R(pi)	Antecedent Set A(pi)	Intersection Set R(pi) ∩ A(pi)	Level
1	1,2,3,4,5,6,7,12	1,2,7,8,9,10,11,12	1,2,12	**II**
2	1,2,3,4,5,6,8,11	1,2,3,7,8,10,11,12	1,2,3,11	**II**
3	2,3,4,5	1,2,3,4,10,11	2,3,4	
4	3,4,5	1,2,3,4,6,10,11,12	3,4	**II**
7	1,2,6,7	1,7,9,10,11,12	1,7	
8	1,2,5,6,8,9,10,11	2,6,8,10	2,6,8,10	
9	1,6,7,9,10	6,8,9,10,11,12	6,9,10	
10	1,2,3,4,5,6,7,8,9,10,11,12	8,9,10	8,9,10	
11	1,2,3,4,5,6,7,9,11,12	2,8,10,11	2,11	
12	1,2,4,5,6,7,9,12	1,6,10,11,12	1,6,12	

Improper leadership and multiple stakeholders are at the top of the hierarchy. Because none of the above-listed elements are above one another. The elements of a tightly linked subset, for example, as well as additional factors in the same level that the factor can reach, make up the reachability set for a high-level factor pi.

Table 7: Iteration iii

Factors pi	Reachability Set R(pi)	Antecedent Set A(pi)	Intersection Set R(pi) ∩ A(pi)	Level
3	2,3,4,5	1,2,3,4,10,11	2,3,4	III
7	1,2,6,7	1,7,9,10,11,12	1,7	III
8	1,2,5,6,8,9,10,11	2,6,8,10	2,6,8,10	
9	1,6,7,9,10	6,8,9,10,11,12	6,9,10	III
10	1,2,3,4,5,6,7,8,9,10,11,12	8,9,10	8,9,10	
11	1,2,3,4,5,6,7,9,11,12	2,8,10,11	2,11	
12	1,2,4,5,6,7,9,12	1,6,10,11,12	1,6,12	

The levels of numerous factors are then defined when the connection of these factors sets is obtained for all factors. The top level of the ISM hierarchy captures the characteristics that contribute to the similarity between the sets of reachability and connection.

Table 8: Iteration iv

Factors pi	Reachability Set R(pi)	Antecedent Set A(pi)	Intersection Set R(pi) ∩ A(pi)	Level
8	1,2,5,6,8,9,10,11	2,6,8,10	2,6,8,10	
10	1,2,3,4,5,6,7,8,9,10,11,12	8,9,10	8,9,10	
11	1,2,3,4,5,6,7,9,11,12	2,8,10,11	2,11	
12	1,2,4,5,6,7,9,12	1,6,10,11,12	1,6,12	IV

The factors at the top of the hierarchy are those that do not affect the elements below them at that level. It indicates that any members of an intensely connected subset corresponding to pi in the toplevel, as well as the factor itself, the factor that reaches it from the lower levels, make up the antecedent for an upper-level factor. Since the set of reachability is at the top level, the intersection of the reachability sets and the antecedent is consequently comparable.

Table 9: Iteration v

Factors pi	Reachability Set R(pi)	Antecedent Set A(pi)	Intersection Set R(pi) ∩ A(pi)	Level
8	1,2,5,6,8,9,10,11	2,6,8,10	2,6,8,10	V
10	1,2,3,4,5,6,7,8,9,10,11, 12	8,9,10	8,9,10	VI
11	1,2,3,4,5,6,7,9,11,12	2,8,10,11	2,11	V

It should be noted that the reachability set will consist of factors from higher levels when the component in issue is not an upper-level factor, and the relationship between the reachability and antecedent sets will change from the reachability set. However, if R(pi) = R(pi) A, then a factor pi is a top-level factor (pi).

It is removed from the matrix once the top-level factors have been identified. To find the factors on the following level, a similar procedure is then repeated. As observed in Tables 5 through Table

9, the process is continued until the level of each factor is developed. In creating the graph and the ISM Model, these levels are helpful.

4. Results and Discussion

4.1.Building the ISM-based model

The main purpose of this work is to continuously advance HL by identifying the causes of ethical failure. HL is always evolving and is gradually being investigated. The goal of the current study was to put a model into action. The research shows important ethical failure elements in HL. The study's findings provide support for the idea that by focusing on this paper's variables in the context of disasters, ethical standards can be improved. These results are crucial because they confirm the causes of ethical failure more clearly than those of earlier articles. It is necessary for academics and professionals to evaluate HL's ethical behaviors more dynamically. The conversion of HL practice into ethical practice is influenced by several factors. As a result, this is one of the challenging problems. The ISM-factors model expresses the current situation rather than any one factor taken separately since they are in the right order and direction. Because it offers a complete structure of the variables, ISM is a perfect methodology. With the aid of graphics, this method presents the hidden and poorly organized models as part of a full, transparent, and understandable system. The research model is represented by a digraph in Figure 1 and is drawn using edges and nodes from Table 4 as shown. The digraph is then converted into the ISM model, which is shown in Figure 2. An arrow indicates the connection between two factors (j and i or i and j).

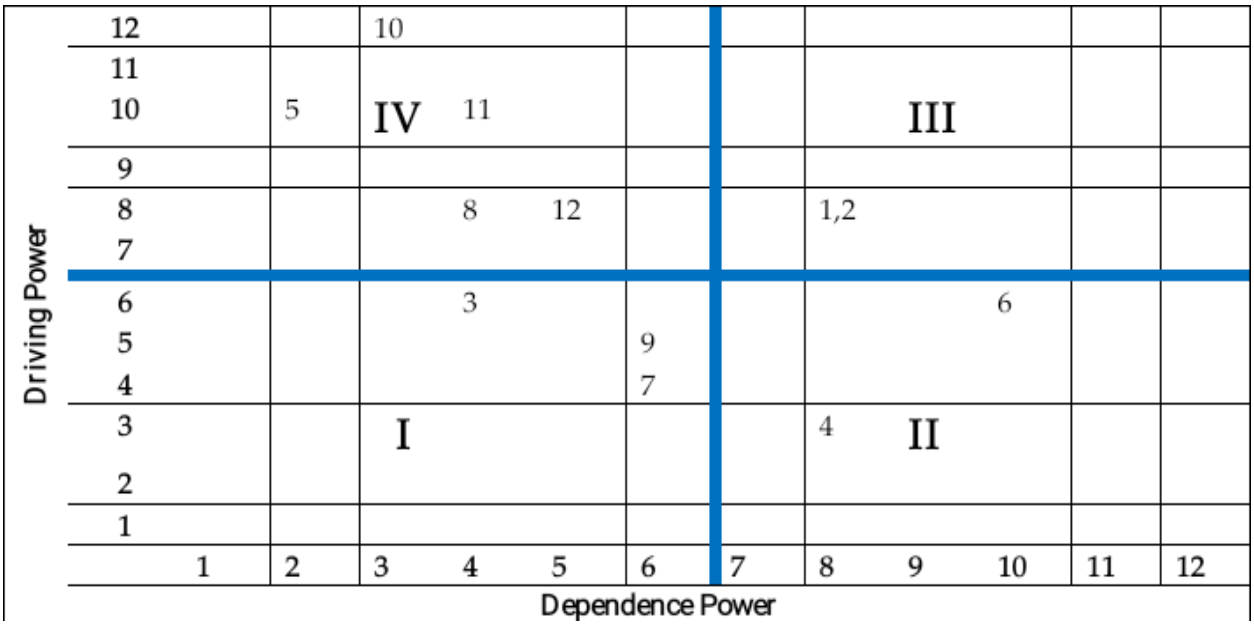

Figure 1. Driver power and dependence diagram

4.2.MICMAC analysis

The primary goal of MICMAC analysis is examined in this part along with the dependence of the factors(Faisal, 2010; Mandal & Deshmukh, 1994). These factors are categorized into four different

quadrants (See Figure 1). The first quadrant is called the autonomous with holders. They have very weak driver power and reliance and are mostly out of the system. The second quadrant contains the response factors. These factors have extraordinarily strong reliance but very weak driving power. The third quadrant contains the linking factors that have both strong driving and reliance power. They are uniquely unsteady because any action on these factors can impact the other factors and also itself. The fourth quadrant contains independent factors. They have very strong driving power but very weak reliance. A factor that has extraordinarily strong driving power is considered a key factor (See Table 4). The entries in Table 5 of "1" in the rows and columns reflect the driver and dependence, respectively. From Table 4, the Figure 1 of driver power and dependency diagram is constructed.

In this paper, three factors in the autonomous quadrant reflect that inappropriate monitoring, multiple stakeholders and lack of ethical framework may be taken into account as detached from the system, nevertheless, there are some vital connections with the system. The next class (II) of the factors is response variables. They are two factors, such as temporary workers and improper leadership. They have high reliance but exceptionally low control power and in fact, these factors have these characteristics. The factors reveal that the HOs along with other stakeholders require to know how these factors should be dealt with by knowing their dependence on the factors at down level in the ISM model. Self-interest and unfairness fall in the group of interconnection factors. These factors are the most crucial and distinctive inhibitors as these are impacted by the group of inhibitors in the quadrant II. Moreover, these variables influence the factors in quadrant IV. In other words, any changes in the quadrant II will not only affect the factors in quadrant III but also in quadrant IV. Therefore, these variables are performing the duty of interconnection between quadrants II and IV. The fourth quadrant of variables consists of lack of ethical sensitivity, lack of information technology, education/training, lack of coordination and level of control. These five factors are the highest driving power and having lowest reliance. In order to have strong driving power, these factors are of high importance in the system and consider originators of the issue.

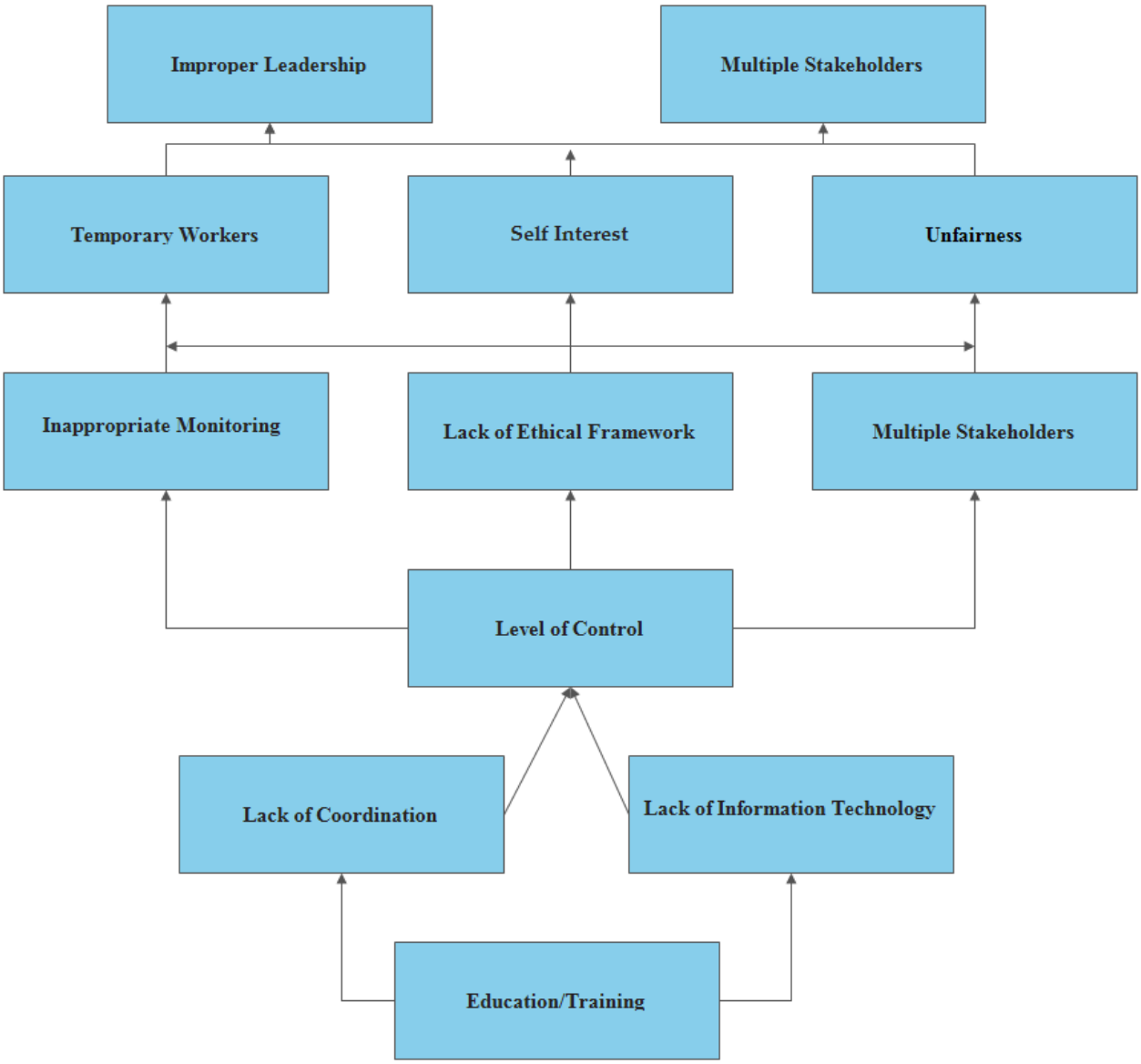

Figure 2. ISM-based model for ethical failure factors in HL

4.3.Practical implications

There are three significant implications of the article.(i), The purpose of this study is to examine the connections between the underlying causes of the ethical failure factors in HL. The paper underlines the interrelationships between the variables and stresses the necessity of concentrating on the crucial concerns that demand a strategic direction and demand policy implementation. By limiting the ethical failure factors for suitable implementation in HL and introducing ethical practice in HL, HOs and the government can both increase their performance. The ISM model provides a way to view the ethical failure factors in HL. (ii), The ISM model offers a mode for ethical failure factors in HL. This is the key to steering ethical practice in HL. The identified hierarchy can also help overcome the situation after a catastrophe strikes. Shortly, the ISM model may help to attain valuable planning, examining, responsibility, and corporate governance of the

organization. (iii), The study uses the ISM approach, which has never been applied in this situation and which not only demonstrates the interrelationships among the variables but also their significance in an easily comprehendible manner.

4.4.Future Research Directions

The article's findings are helpful for implications, but they are also further the subject of study. However, research on sustainability in HL has only been sparsely done thus far. As a result, our research raises new awareness about this particular topic and adds a fresh perspective to the existing literature. The ethical failure factors in HL have not, however, been fully clarified by this work. Future studies can now statistically describe the current state of the factors in ethical practice using quantitative data. Second, the confirmed hierarchy model of the study expands on the interdependencies between the variables of ethical failure that were examined. A quantitative study to gauge ethics in HL might be developed as a result of further research. Benchmarking HL on ethical practice may be useful as a result of this quantitative investigation. Third, the scholars may focus on and should address the core problem of our suggested ISM model—the education and training of disaster relief workers—which cannot be properly addressed by HOs without thorough examination. Fourth, the integrated ISM model is created, and an arrow is used to show how two components are related to one another. However, there may be differences in how the elements interact, such as whether certain links are stronger than others or some associations are superior. Further study is required to determine the precise correlation between these variables in order to resolve this ISM model problem. Finally, the outcomes of the ISM technique were the foundation for this study. Since the ISM model is based on the contributions of resource people, there is a potential for bias. The present literature may benefit most from additional multiple techniques.

4. Conclusion

To examine the complex problems of HL, researchers in the field are taking a range of approaches. Due to the complexity of the HL process and the participation of numerous stakeholders, ethical implementation is an incredibly challenging issue. By reviewing pertinent current literature and using the brainstorming process, the study has discovered twelve fundamental elements. It should be underlined that no single obstacle to moral behavior could determine whether or not sustainability will be implemented in HL. It is crucial to understand how the many factors of ethical behavior relate to one another. An interrelationship model for the ethical failure factors in HL is extended in this work using the ISM approach. When using the ISM approach, MICMAC analysis is used to identify the causes and dependencies of ethical failure factors. Figure 1 reflects that one of the key contributing factors to ethical failure is the disaster relief workers' education and training. In order to properly implement sustainability in HL, management must concentrate on the factors that have been identified. By identifying and systematizing the ethical failure factors in HL, the study has added to the body of literature.

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