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Complexity of Adoption: An ISM Model of Impediments for Social Responsibility Investment in Pakistan

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Abstract

Sustainable practices significantly reduce carbon footprints, mitigate climate change, and prevent the release of toxic pollutants into the atmosphere. Socially Responsible Investment (SRI) practices are emphasized and are required to be implemented immediately. The concept of SRI was introduced and is becoming increasingly widespread. Still, this practice is hindered at the different stages of its adoption. The present study aims to identify the impediments to implementing the SRI system. The study is conducted in two primary steps: an extensive literature review and the formation of the ISM model. A panel of 13 experts was used to finalize the list of 15 impediments, which were further utilized in the ISM. MICMAC analysis was used to classify the impediments in different clusters based on their dependence and driving powers. After analyzing the contextual relationships, a hierarchical model was formed, presenting the various levels of the barriers. The findings revealed that a lack of investors' confidence, high implementation costs, communication gaps, inadequate state support, unclear environmental protection laws, and complex regulatory frameworks are the foremost impediments to the SRI implementation system. The identified impediments of SRI can be helpful in establishing sustainable projects for developing policies and regulatory frameworks. Individual investors can benefit from this study by analyzing the impediments of SRI and making their investment portfolios accordingly.

Introduction

Modern development and industrialization are directly harming our social and natural environment (Khan & Nasir, 2023). Climate change, pollution, urbanization, deforestation, hunting, over-fishing, etc., are causing problems for the social well-being of living creatures

(Shehzad & Khan, 2025). Addressing these global crises is hindered mainly due to resource scarcity. There is an urgent need to protect the social and natural environment by emphasizing the adoption of sustainable and green practices (Zafar et al., 2021). It is becoming a global need, highlighted through various forums and organizations, including the United Nations (UN), the International Forum for Environment, Sustainability & Technology (iFOREST), and the World Bank (WB) (Machiba, 2011; Sarangi, 2002).

Awareness of social and environmental protection encourages investors to adopt sustainable practices (Baloch et al., 2022). Individual investors, organizations, regulatory bodies, and governmental agencies can collectively work to implement Socially Responsible Investment (SRI) practices successfully. SRI is a sustainable and eco-friendly investment strategy that ensures the protection and well-being of the social environment (Hill et al., 2007). Adopting these sustainable practices is common in China, India, and the US. This practice is growing; approximately more than $2 trillion of professionally managed assets are involved in SRI (Schueth, 2003). Unfortunately, this practice is still neglected in underdeveloped economies with limited resources. The execution of SRI is hindered at global, country, and individual levels. Individuals practice SRI with different title terms, including CSR, green investment, sustainable investment, etc. Prior researchers have introduced the term SRI, but due to a lack of conceptualization, people are still unaware of its significance and the urgent need for it (Shehzad & Khan, 2025). There is a need to highlight the impediments to the successful implementation of the SRI adoption system. Therefore, the study has enlisted the berries to the SRI adoption system to bridge this gap and to facilitate the potential investors and practitioners,

The objectives of the current study are to highlight the impediments faced by investors when adopting SRI practices and to develop a hierarchical model presenting the relationships among the impediments of SRI. To successfully achieve these study objectives, the present study adopted an Interpretive Structural Modeling (ISM) and Cross-Impact Matrix Multiplication Applied to Classification (MICMAC) analysis. The data was finalized by the consensus of a panel of 13 experts to conduct this analysis. These experts had extensive field experience from various financial institutions, agencies, research institutes, and subject areas. The findings revealed that lack of investors' confidence, high implementation costs, communication gaps, and high administrative costs are the essential factors impeding the implementation of SRI practices. The study will contribute to the existing body of knowledge regarding the impediments to SRI. The findings will benefit researchers, managers, policymakers, and environmentalists accordingly.

Literature Review

The emerging concept of SRI has gained popularity in recent years, and both foreign and local investors are seeking these investment opportunities. However, this concept is still far behind that of other investment choices. Certain factors impede the implementation of SRI, particularly in developing countries. Low financial returns are the foremost concern of investors (Shehzad & Khan, 2025). SRI is an investment strategy that has positive social impacts. Khan et al. (2023) presented SRI as an ethical investment decision that generates social and financial returns. SRI is an emerging multidimensional concept that is linked to multiple study areas, including economics,

social sciences, management sciences, finance, and environmental sciences (Chatzitheodorou et al., 2019). Various theories from different study areas can be linked with SRI (see Table 1).

Table 1: Theoretical Relevance of Social Responsibility Investment

Study Area	Cluster of Related Theories	Reference(s)
Economics	Economics Theory, Neoclassical Economics Theory, Keynesian Economics Theory	(Petrick, 2005; Takola & Schielzeth, 2022)
Social Sciences	Stakeholder Theory, Social Investment Theory, Social Capital Theory, Social Structure Theory, Network Theory	(Fang et al., 2012; Schmidt et al., 2017)
Management Sciences	Administrative Management Theory, Social Relationships Theory, Behavioral Management Theory	(Kiggundu et al., 1983)
Finance	Agency Theory, Capital Structure Theory, Portfolio Theory, Trade-Off Theory, Agency Cost Theory	(Ando & Shah, 2016; Campa & Kern, 2020; Dobrovolskiene & Tamošiuniene, 2016)
Environmental Sciences	Ecological Theory, Metabolic Theory, Niche Theory, Neutral Theory	(Takola & Schielzeth, 2022; Van Der Meer, 2006)

Investment decisions of investors are highly based on their income generation and the economic situation of the market. Based on investment decisions and return generation, SRI is linked with economies (Brzeszczyński & McIntosh, 2014). Multiple theories of economics related to the study area are associated with SRI. These theories include economics theory, neoclassical theory (Dolderer et al., 2021), and Keynesian economics theory, among others. Social science focuses on human society and the different social relations that combine to form a society (John et al., 2022). SRI is an investment strategy that focuses on investing in organizations and funds that generate positive social impacts. Hence, the study area of social sciences is the most related discipline. Theories from social sciences that can be linked with SRI include stakeholder theory (Tolmie et al., 2020), social investment theory (Bleidorn et al., 2013), network theory (Tsujimoto et al., 2018), and social structure theory, among others.

Management sciences are related to decision-making in solving problems and upgrading performance (Akram et al., 2023). The study area of management sciences encompasses multiple theories, including administrative management theory (Edwards, 2018), social relationships theory, and behavioral management theory. SRI focuses on investment strategies generating both social and financial returns. Therefore, several theories of finance are also linked with SRI: agency theory (Campa & Kern, 2020), capital structure theory, portfolio theory (Dobrovolskiene & Tamošiuniene, 2016), trade-off theory, and agency cost theory (Chechet, 2014). Further, ecological theory, metabolic theory (Schramski et al., 2015), and niche and neutral theory (Chave, 2004) are environmental sciences theories related to SRI.

Individual investors are gradually becoming familiar with and adopting SRI, but this concept remains hindered at various stages of its implementation. Different impediments to SRI have been highlighted by prior researchers (Khan et al., 2022; Shehzad & Khan, 2024). Resource scarcity is a problem that limits investors from investing in long-term social investments that

generate less financial and more social impacts. Ultimately, individual investors and financial institutions are not interested in sustainable investment practices (Khan et al., 2022). The lack of proper conceptualization of this emerging concept is also a hurdle, as individual investors are unfamiliar with the significance and urgent requirements (Shehzad & Khan, 2025). There are no proper rules and regulations to limit the activities of organizations and production units, resulting in adverse social impacts (Irvine-.

The absence of environmental policies is also considered a significant factor negatively impacting the adoption system of sustainable investment practices on a global level (Pourvaziri et al., 2024). Weak law enforcement hinders the implementation of ethical practices on both national and international levels, enabling businesses, production units, and investors to engage in unsustainable activities (Jonäll et al., 2025). These harmful practices lead to resource depletion, environmental degradation, and an insecure future for future generations (Khan & Shehzad, 2025). Therefore, an unstable situation and a lack of regulatory frameworks impede the adoption of SRI in both developed and developing economies. The lack of global criteria and defined laws is crucial to ensuring the protection and social well-being of this society. Furthermore, weak political and economic situations, a lack of organization, and inadequate government support, including limited grants and subsidies, are also listed as impediments to the SRI adoption system (Shehzad & Khan, 2025).

Research Methodology

Interpretive Structural Modelling:

The study aims to report the barriers investors face in adopting the SRI. ISM is considered the best approach to identify and form the relation among certain factors of different phenomena. It is used to explore the viewpoints and opinions of experts related to the linked study areas. Expert advice and valuable comments help to sort a complex structure into multiple layered models. The basic ISM approach comprises several procedural steps, as outlined in Figure 1. Barrier identification is the initial step of ISM methodology, in which the challenges of a specific problem are identified through an extensive literature review. An in-depth literature review helps explore the existing barriers and provides a direction for the next steps.

Figure 1. Summarizing ISM Approach

The barriers identified from prior literature can be further used to develop a questionnaire for interviewing a panel of experts. Experts help identify overlapping, irrelevant, and insignificant factors unrelated to the research. Step 2 involves the formation of a Structural Self-Interaction Matrix (SSIM), which presents the contextual relationships among the variables. This step also includes the experts' creative thinking to discuss the influencing relations of the factors (A/V). It also provides for the discussion of dual (X) or no relation (O) among the factors. Next, it includes the construction of an Initial Reachability Matrix (IRM), which converts SSIM to "0" and "1"

representations. The transitivity relations are then expressed through "1*" converting IRM into a Final Reachability Matrix (FRM). After level partitioning, a conical matrix is formed by categorizing the barriers at similar levels of FRM. The graphical representation of the relations among the factors is further expressed through a digraph. Finally, an ISM model is structured to present a hierarchical representation of the factors categorized at different levels based on their impending intensity (Attri et al., 2013).

Research design and Data collection:

The emerging concept of SRI still faces various impediments at different stages of its implementation. Based on the significance and relevance to the study's objective, the present study has adopted the ISM methodology to identify impediments to the adoption of the SRI system. An extensive literature review was conducted to explore the investors' perceptions during the SRI process. Theories from various study areas are also incorporated to provide theoretical and empirical support for the identified SRI relevance impediments. The initially constructed list of 20 impediments was presented to a panel of 13 experts.

Table 2: Impediments Selection by Experts

Sr. No.	Impediments	Experts' Decision													Total		Selection
		1	2	3	4	5	6	7	8	9	10	11	12	13	✓	✗	
1	Unavailability of external funding opportunities	✓	✓	✓	✓	✗	✓	✓	✗	✓	✗	✗	✗	✓	8	5	Included
2	Lack of education and awareness	✓	✗	✗	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	4	9	Neglected
3	Complex regulatory frameworks	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	10	3	Included
4	Unclear CSR goals	✗	✓	✗	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	9	4	Included
5	Lack of clarity	✓	✗	✗	✓	✗	✗	✓	✗	✗	✗	✓	✗	✓	5	8	Neglected
6	High implementation cost	✗	✓	✗	✓	✗	✓	✓	✗	✗	✓	✓	✓	✓	8	5	Included
7	Lack of investors' confidence	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	10	3	Included
8	Communication gaps among investors and investees	✓	✓	✓	✓	✗	✓	✗	✗	✓	✓	✗	✓	✓	9	4	Included
9	Fewer options to make ethical choices	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✓	✓	✓	8	5	Included
10	Long-term returns	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	11	2	Included
11	Lack of international collaboration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	12	1	Included
12	Lack of transparency	✓	✗	✗	✗	✓	✗	✗	✗	✓	✓	✗	✗	✗	4	9	Neglected
13	Investors' risk perception	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	12	1	Included
14	High administrative costs	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✓	✓	✓	11	2	Included
15	Role of law enforcement agencies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13	0	Included
16	Unclear environmental protection laws	✗	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	10	3	Included
17	Lack of global practices	✗	✗	✓	✓	✓	✗	✗	✓	✗	✓	✓	✗	✓	6	7	Neglected
18	Unstable political economy	✗	✗	✓	✗	✗	✓	✓	✗	✗	✗	✗	✓	✓	5	8	Neglected
19	Lack of state support	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	10	3	Included
20	High expectations from stakeholders	✓	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✓	9	4	Included

The well-experienced experts, with at least five years of academic or field experience, were selected to provide greater insight into the concept. The experts were nominated based on their relevance to the topic. The experts had a direct connection with SRI-related projects, including officials from various organizations with sound experience. Furthermore, the snowball sampling technique was used to reach out to more experts. Thirteen experts voluntarily participated and provided their valuable insights to complete this study successfully. These 13 experts were professionally linked with financial institutions, agencies, environmentalists, subject experts, researchers, and social activists. The designed questionnaire was presented to them to identify the relevant SRI barriers from investors' perspective. They highlighted two overlapping and three irrelevant impediments (see Table 2), which were excluded from the list. The 15 impediments to SRI were finalized by the panel of experts presented in Table 3. The finalized list was further used for the next steps and MICMAC analysis.

Table 3: Finalized Impediments

Assigned Code	Impediments
1	Unavailability of external funding opportunities
2	Complex regulatory frameworks
3	Unclear CSR goals
4	High implementation cost
5	Lack of investors' confidence
6	Communication gaps among investors and investees
7	Fewer options to make ethical choices
8	Long-term returns
9	Lack of international collaboration
10	Lack of state support
11	High expectations from stakeholders
12	Investors' risk perception
13	High administrative costs
14	Role of law enforcement agencies
15	Unclear environmental protection laws

Analysis and Results

The contextual relationships among the impediments of SRI are presented through SSIM (see Table 4). The relations are presented symbolically using VAOX symbols by differentiating them as (*i,j).* "V" presented the direct influence of impediment "i" on "j"; likewise, "A" is assigned if "j" leads to "i." Further, the influence of both impediments "i" and "j" on each other are presented through "X," and "O" is assigned if there is no relation among the impediments of SRI.

Table 4: Structural Self-Interaction Matrix

Impediments	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	-	V	X	A	X	V	V	O	X	A	O	V	V	X	X
2		-	A	A	A	A	A	O	A	V	O	A	A	X	X
3			-	A	X	V	X	V	A	O	X	X	O	V	V
4				-	A	V	X	O	V	V	O	V	A	V	V
5					-	V	V	V	X	V	V	X	V	V	V
6						-	A	O	A	V	O	V	X	O	O
7							-	V	V	V	X	O	A	V	V
8								-	O	O	A	X	A	V	O
9									-	V	O	A	A	V	X
10										-	O	O	A	A	X
11											-	X	O	V	V
12												-	O	V	V
13													-	V	V
14														-	V
15															-

"V" in the first row presents that "complex regulatory frameworks" can impact the external funding opportunities available for raising funds for SRI. The "unavailability of external funding opportunities" may impede SRI (Shehzad & Khan, 2024). Similarly, "A" indicates that "high implementation cost" is influenced by the unavailability of external funding opportunities. The availability of foreign funding opportunities can reduce the implementation and administrative costs of SRI systems. The symbol "O" presents that, according to the panel of experts selected for this study, the "long-term returns" generated by SRI are unaffected by external funding opportunities. "X" clearly shows that "lack of international collaboration" and external funding opportunities can influence each other. International collaboration will help generate funds from around the globe, and similarly, external fundraising is influenced by international collaborations among countries.

Table 5: Initial Reachability Matrix

Impediments	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	1	0	1	1	1	0	1	0	0	1	1	1	1
2	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1
3	1	1	1	0	1	1	1	1	0	0	1	1	0	1	1
4	1	1	1	1	0	1	1	0	1	1	0	1	0	1	1
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	0	1	0	0	0	1	0	0	0	1	0	1	1	0	0
7	0	1	1	1	0	1	1	1	1	1	1	0	0	1	1
8	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0
9	1	1	1	0	1	1	0	0	1	1	0	0	0	1	1
10	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1

11	0	0	1	0	0	0	1	1	0	0	1	1	0	1	1
12	0	1	1	0	1	0	0	1	1	0	1	1	0	1	1
13	0	1	0	1	0	1	1	1	1	1	0	0	1	1	1
14	1	1	0	0	0	0	0	0	0	1	0	0	0	1	1
15	1	1	0	0	0	0	0	0	1	1	0	0	0	0	1

SSIM was further used to develop IRM, presented in Table 5. The VAOX symbols were replaced with "0" and "1". The input of symbol "V" for *(i,j)* is "1", and it is "0" or its transpose relation *(j,i).* Further, the symbol "A" is "0" for *(i,j)* and is "1" for *(j,i).* If the relation among both impediments is dual, then "X" will be "1" for both relations *(i,j)* and *(j,i).* Finally, the symbol "O" is presented as "0" for both *(i,j),* and *(j,i).* The results of IRM were further used to construct FRM. The transitivity of the relations was checked and presented through "*". Suppose impediment "i" is related to "j", and impediment "j" is related to "k". In this case, impediment "i" is automatically related to impediment "k." This transitivity relation is presented through "*" (see Table 6). The present study utilized R software for data analysis to minimize human errors and efficiently examine the transitivity relations among the impediments.

Table 6: Final Reachability Matrix

Impediment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Driving
1	1	1	1	1*	1	1	1	1*	1	1*	1*	1	1	1	1	15
2	1*	1	0	0	0	0	0	0	1*	1	0	0	0	1	1	6
3	1	1	1	1*	1	1	1	1	1*	1*	1	1	1*	1	1	15
4	1	1	1	1	1*	1	1	1*	1	1	1*	1	1*	1	1	15
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
6	1*	1	1*	1*	1*	1	1*	1*	1*	1	1*	1	1	1*	1*	15
7	1*	1	1	1	1*	1	1	1	1	1	1	1*	1*	1	1	15
8	1*	1*	1*	0	1*	0	0	1	1*	1*	1*	1	0	1	1*	11
9	1	1	1	1*	1	1	1*	1*	1	1	1*	1*	1*	1	1	15
10	1	1*	1*	0	1*	1*	1*	0	1*	1	0	1*	1*	1*	1	12
11	1*	1*	1	1*	1*	1*	1	1	1*	1*	1	1	0	1	1	14
12	1*	1	1	1*	1	1*	1*	1	1	1*	1	1	1*	1	1	15
13	1*	1	1*	1	1*	1	1	1	1	1	1*	1*	1	1	1	15
14	1	1	1*	0	1*	1*	1*	0	1*	1	0	1*	1*	1	1	12
15	1	1	1*	0	1*	1*	1*	0	1	1	0	1*	1*	1*	1	12
Dependence	15	15	14	10	14	13	13	11	15	15	11	14	12	15	15	

FRM also presents the driving and dependence powers of the impediments calculated after identifying the effects of transitivity. The driving and dependence powers were calculated by taking the sum of each row and column, respectively. These calculated driving and dependence powers were further used in the MICMAC analysis represented in Figure 2. MICMAC analysis categorizes the impediments into four clusters: independent, linkage, autonomous, and dependent. The barriers are located in MICMAC based on the calculated driving and dependence powers. Figure 2 shows that only impediment 2 (complex regulatory framework) is present in the

dependent cluster. All other impediments are located in the linkage cluster, presenting their high driving and dependence powers. Any change in only one impediment can influence all other obstacles in the linkage cluster.

The linkage cluster presents that the unclear CSR goals of organizations (impediment 3) can impact the confidence levels of investors (impediment 5). Due to the unavailability of external funding opportunities addressed through impediment 1, the implementation costs of eco-friendly projects and funding opportunities (impediment 4) increase. Furthermore, the lack of international collaboration (impediment 9) is hindering law enforcement agencies from working properly (impediment 14), ensuring the implementation of environmental protection laws (impediment 15) to preserve our natural environment.

Driving Power	**15**										4		13	6,7	3,5,12	1,9
	14											11				
	13															
	12			**Independent**								**Linkage**				10,14,15
	11											8				
	10															
	9															
	8															
	7															
	6															2
	5															
	4			**Autonomous**								**Dependent**				
	3															
	2															
	1															
		1	**2**	**3**	**4**	**5**	**6**	**7**	8	**9**	**10**	**11**	**12**	**13**	**14**	**15**
	Dependence Power															

Figure 2. *MICMAC Analysis*

R software was further used to classify the impediments in different levels of the hierarchical model. FRM generated through R software was used to drive the reachability and antecedent sets. The impediment and all other impacting impediments are clustered in the reachability set. The impediment itself and the other impediments that influence the base factor are grouped in the antecedent set, and the final intersection set includes the impediments common in both the antecedent and reachability set. The ach impediment with the same reachability and intersection set is included in that hierarchy level. Table 7 presents that impediments 1, 2, 9, 10, 14, and 15 are included in level I. Impediments 3, 8, 11, and 12 exist in level II; impediments 4, 6, 7, and 13 are in level III. Finally, impediment 5 is present in the last level IV.

Table 7: Summarization of Interactions

Impediments	Reachability Set	Antecedent Set	Intersection Set	Levels
		Iteration I		
1	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	**I**
2	1,2,9,10,14,15	1,2,3,4,5,6,7,8,9,10,11,12,A13,14,15	1,2,9,10,14,15	**I**
3	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,3,4,5,6,7,8,9,10,11,12,13,14,15	1,3,4,5,6,7,8,9,10,11,12,13,14,15	
4	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,3,4,5,6,7,9,11,12,13	1,3,4,5,6,7,9,11,12,13	
5	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,3,4,5,6,7,8,9,10,11,12,13,14,15	1,3,4,5,6,7,8,9,10,11,12,13,14,15	
6	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,3,4,5,6,7,9,10,11,12,13,14,15	1,3,4,5,6,7,9,10,11,12,13,14,15	
7	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,3,4,5,6,7,9,10,11,12,13,14,15	1,3,4,5,6,7,9,10,11,12,13,14,15	
8	1,2,3,5,8,9,10,11,12,14,15	1,3,4,5,6,7,8,9,11,12,13	1,3,5,8,9,11,12	
9	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	**I**
10	1,2,3,5,6,7,9,10,12,13,14,15	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,2,3,5,6,7,9,10,12,13,14,15	**I**
11	1,2,3,4,5,6,7,8,9,10,11,12,14,15	1,3,4,5,6,7,8,9,11,12,13	1,3,4,5,6,7,8,9,11,12	
12	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,3,4,5,6,7,8,9,10,11,12,13,14,15	1,3,4,5,6,7,8,9,10,11,12,13,14,15	
13	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,3,4,5,6,7,9,10,12,13,14,15	1,3,4,5,6,7,9,10,12,13,14,15	
14	1,2,3,5,6,7,9,10,12,13,14,15	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,2,3,5,6,7,9,10,12,13,14,15	**I**
15	1,2,3,5,6,7,9,10,12,13,14,15	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	1,2,3,5,6,7,9,10,12,13,14,15	**I**
		Iteration II		
3	3,4,5,6,7,8,11,12,13	3,4,5,6,7,8,11,12,13	3,4,5,6,7,8,11,12,13	**II**
4	3,4,5,6,7,8,11,12,13	3,4,5,6,7,11,12,13	3,4,5,6,7,11,12,13	
5	3,4,5,6,7,8,11,12,13	3,4,5,6,7,8,11,12	3,4,5,6,7,8,11,12	
5	3,4,5,6,7,8,11,12,13	3,4,5,6,7,11,12,13	3,4,5,6,7,11,12,13	
7	3,4,5,6,7,8,11,12,13	3,4,5,6,7,11,12,13	3,4,5,6,7,11,12,13	
8	3,5,8,11,12	3,4,5,6,7,8,11,12,13	3,5,8,11,12	**II**
11	3,4,5,6,7,8,11,12	3,4,5,6,7,8,11,12,13	3,4,5,6,7,8,11,12	**II**
12	3,4,5,6,7,8,11,12,13	3,4,5,6,7,8,11,12,13	3,4,5,6,7,8,11,12,13	**II**
13	3,4,6,7,8,11,12,13	3,4,5,6,7,12,13	3,4,6,7,12,13	
		Iteration III		
4	4,6,7,13	4,5,6,7,13	4,6,7,13	**III**
5	4,5,6,7,13	5	5	
6	4,6,7,13	4,5,6,7,13	4,6,7,13	**III**
7	4,6,7,13	4,5,6,7,13	4,6,7,13	**III**
13	4,6,7,13	4,5,6,7,13	4,6,7,13	**III**
		Iteration IV		
5	5	5	5	**IV**

"Lack of investors' confidence" exists in level IV, which is considered the root cause factor impeding SRI implementation. Level III includes "high implementation cost," "communication gaps among investors and investees," "fewer options to make ethical choices," and "high administrative costs". Further, "Unclear CSR goals", "long-term returns", "high expectations from stakeholders", and "investors' risk perception" are residing in level II. Level I present "unavailability of external funding opportunities", "complex regulatory frameworks", "lack of

international collaboration", "lack of state support", "role of law enforcement agencies", and "unclear environment protection laws" as the broader impediments of biodiversity finance.

Table 8: Conical Matrix

Impediment	1	2	9	10	14	15	3	8	11	12	4	6	7	13	5
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1
14	1	1	1	1	1	1	1	0	0	1	0	1	1	1	1
15	1	1	1	1	1	1	1	0	0	1	0	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Table 8 presents the conical matrix formed to cluster the impediments of FRM. The impediments present in identical positions of rows or columns of FRM help develop a conical matrix. After calculating the driving and dependence values, the barriers are ranked based on the frequency of "1" occurrences. This matrix is further used to construct the digraph, which presents the relations among the impediments of SRI. Figure 3 presents the interactions of all barriers.

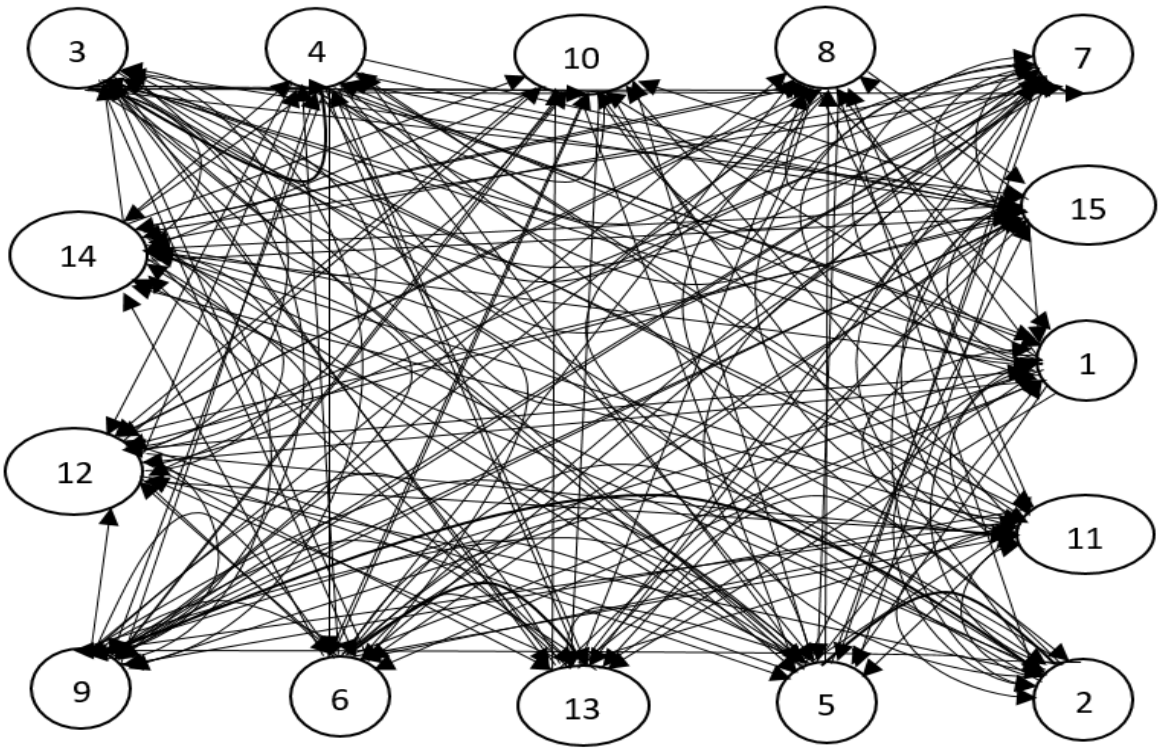

Figure 3. *Relationships among the impediments of SRI*

Discussion

The study identifies the impediments to SRI from investors' perspectives, aiming to deal with them effectively and ensure both social and financial benefits. It presented a hierarchical model through ISM to explain the level-wiz significance of the barriers. It reported that technological advancements lead to both adverse and positive outcomes. Climate change and environmental deregulation are becoming the foremost challenges facing nearly all nations worldwide (Hussain et al., 2024). Some advanced countries have resources and facilities to control these unwholesome factors. However, many developed and developing countries still require effective strategies and measures to address this situation (Khan et al., 2023). There is an urgent need to introduce healthy, sustainable practices and make their use common among organizations worldwide (Yuen & Lim, 2016). Adopting green and sustainable practices is critical to controlling and restoring the declining nature (Ansari et al., 2023). Implementing a practice ensuring some positive social changes is becoming an urgent need. The emerging concept of SRI is an optimum choice and a global requirement (Shehzad & Khan, 2025). SRI is an investment practice that generates positive social and financial returns (Sood et al., 2023).

SRI is considered a significant approach to protecting the well-being of the natural environment and investors by generating social and monetary benefits (Schueth, 2003). However, it still faces certain hurdles in its successful implementation. This study has highlighted the impediments of SRI and identified the contextual relations existing within it through the representation of a hierarchical model. It is conducted in two basic steps: initially, an extensive literature review was conducted to explore the impediments of SRI as identified by past

researchers. In the next phase, those impediments were shared with a panel of experts via questionnaire. Experts were requested to highlight the overlapping and extra impediments from that list. Finally, 15 impediments of SRI were shortlisted and ranked by a panel of 13 experts from various fields related to SRI. These fields included financial institutions, government agencies, research organizations, and educational institutions.

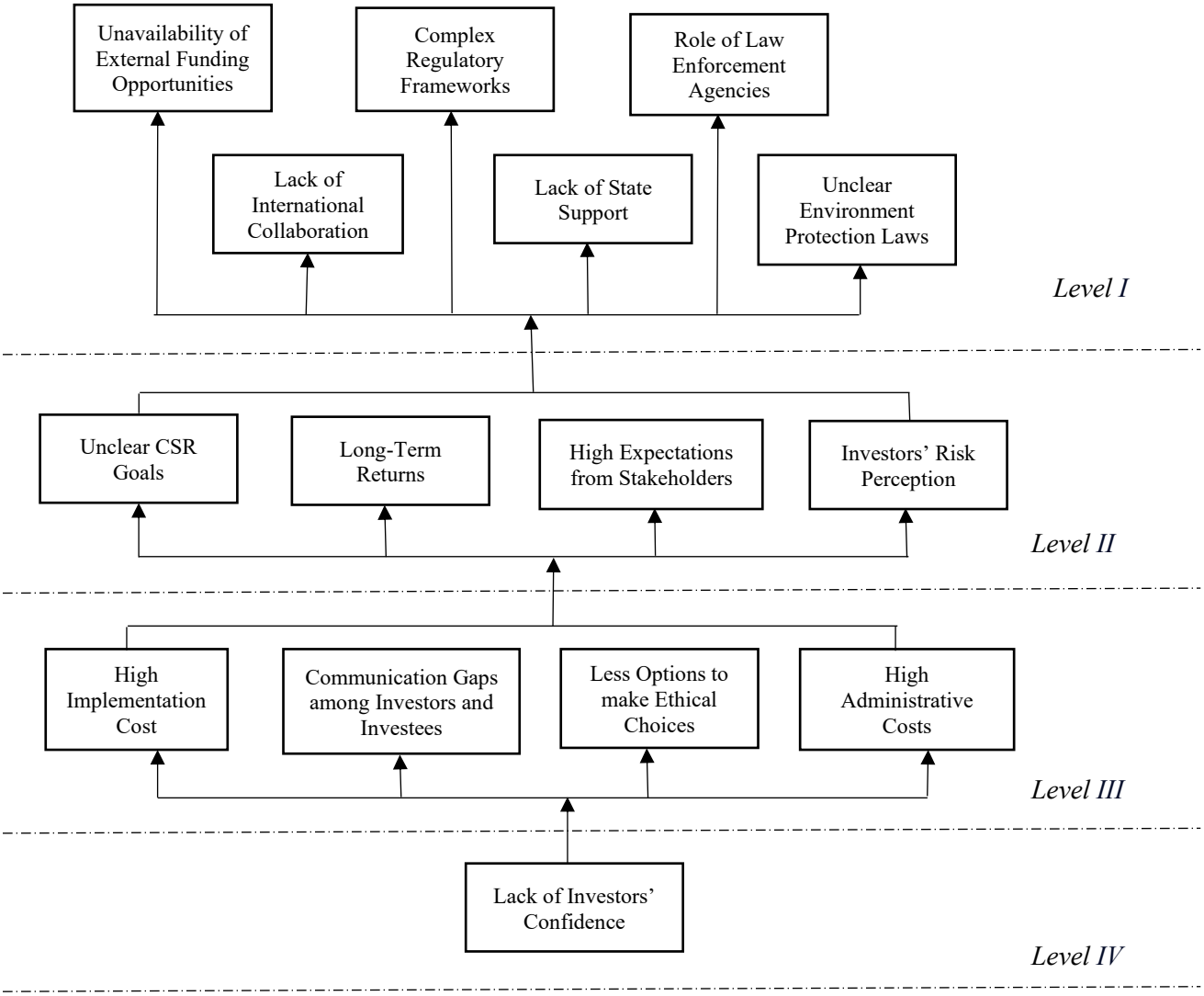

Figure 4. *ISM Model for Impediments to SRI Implementation System*

ISM and MICMAC analyses were conducted based on the data finalized by the experts. SSIM and IRM were used to represent the relationships among the impediments of SRI in the form of VAOX and "0" and "1". FRM and the conical matrix presented the relations based on the presence of transitivity links. Finally, the factors were presented in a hierarchical model by combining them in relevant clusters and arranging them at different levels. MICMAC analysis has further classified the impediments of SRI under four different clusters based on their dependence and driving powers. Only one impediment, "complex regulatory frameworks", was present in the dependent cluster; all other impediments were in the linkage cluster. Based on the transitivity links among the factors, an ISM model was developed to classify the impediments at different levels, as

presented in Figure 4. The 15 barriers of SRI were ranked so that six impediments were present in levels I and II, including four. Similarly, levels III and IV had 4 and 1 impediment, respectively.

Level IV includes "lack of investors' confidence," the primary cause of impeding SRI. Sustainable practices are still not standard globally; only a limited number of organizations operating in developed economies practice SRI. Developing economies are still trying to adopt these practices (Khan et al., 2022). Developing economy investors lack confidence and avoid investing in social investment practices. Secured investment opportunities that generate both social and financial returns are not readily available. Therefore, the lack of investors' trust is the foremost impediment to the successful implementation of SRI. Levels II and III, the middle levels of this hierarchical model, presented the barriers caused by the lack of investors' confidence. Level III comprises "high implementation cost," "communication gaps among investors and investees," "fewer options to make ethical choices," and "high administrative costs." The miscommunication and communication gaps in the SRI supply chain significantly impede its adoption system. Investors are not confident enough to make their investment decisions freely. Their risk perceptions are hindering them to adopt SRI (Sindhu & Kumar, 2014)

Individual investors further avoid SRI practice due to "unclear CSR goals", "long-term returns", "high expectations from stakeholders", and "investors' risk perception". Sustainable investment practices typically yield social returns with lower financial returns compared to other investment practices (Shehzad & Khan, 2024). Therefore, the investors' high expectations usually compel them to avoid these long-term investment practices. The top level of this ISM model includes "unavailability of external funding opportunities", "complex regulatory frameworks", "lack of international collaboration", "lack of state support", "role of law enforcement agencies", and "unclear environment protection laws", presenting them as the broader impediments of SRI adoption system. These study findings are also supported by the prior researchers (Darus et al., 2014; Feliciano, 2022; Li et al., 2021), who believe that the availability of clear regulatory frameworks and law enforcement is essential to ensure the implementation of sustainability practices (Ali & Khan, 2022). Local organizations and investors can not ultimately adopt SRI practices without the involvement and support of governmental bodies and financial institutions (Nirmal et al., 2023).

Conclusion

The present study highlights the impediments to SRI adoption from the investors' perspective. The impediments were explored from the prior literature and finalized by the collective consensus of a panel of 13 experts. The finalized list of impediments was used to conduct the ISM analysis. The conceptual relations among the impediments of SRI were presented in VAOX and ("0" or "1") form and analyzed through R software, which checked the presence of transitivity relations among the variables and presented them in different cluster levels of the hierarchical model. Each level of the hierarchy was finalized based on the intensity level of the impediments present. The findings suggest that a lack of investors' confidence is the root cause of other hurdles in successfully implementing SRI. Furthermore, high administrative costs, unclear CSR goals, a lack of state support, and unclear environmental protection laws are significant

factors impeding the implementation of the SRI system. These results will help the stakeholders promote SRI by overcoming the barriers.

Study Implications:

The present study will benefit researchers, scholars, policymakers, investors, and others. First, this study will help researchers understand the concept of SRI and the impediments hindering its successful implementation. Further, the hierarchical ISM model will help them understand the intensity level of impediments of SRI based on their positioning. The conceptualization and theoretical explanation will help researchers and scholars thoroughly analyze the emerging concept of SRI. It will also assist them and serve as a basis for exploring more concepts derived from sustainable practices, including impact funds, green investments, and biodiversity finance, among others. Second, this study has highlighted the problems individual investors face while making their ethical investment decisions. The listed impediments will help practitioners understand the issues and make effective investment decisions. Third, it highlighted the need for a proper regulatory framework; law enforcement agencies and policymakers can draw on this study to inform their future policies and adjust existing policies accordingly. This study has highlighted the presence of unclear environmental protection laws. Environmental protection agencies and NGOs can also benefit from the insights provided in this study. They can enact strict rules and regulations to ensure the future protection of the natural environment.

Limitations and Future Directions:

The study faces certain limitations that may limit its scope. First, it developed an ISM model using the 15 impediments of SRI with assistance from 13 experts. The emerging concept of SRI is comprehensive and linked with different fields, including social sciences, economics, finance, and management sciences. Therefore, the number of impediments can be increased in conjunction with the size of the expert panel to obtain a detailed and comprehensive representation of all possible factors hindering the adoption of SRI. Second, it focuses on the approaches of the ISM and MICMAC methodology. Qualitative, quantitative, or mixed-method analyses of SRI can be conducted in the future. The financial data of the impediments can be used to perform a definitive study based on the data from different levels of the hierarchical model. Third, due to time constraints, the study has selected SRI, which is one of the sustainable investment approaches. More exciting concepts, including impact funds, biodiversity finance, green finance, sustainable supply chain finance, etc., can also be included in conducting a comprehensive study.

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