
A Study on the Development of Library ESG Management Evaluation Indicator and the Evaluation Result of Library ESG

Younghee Noh*

ARTICLE INFO

Article history:

Received 05 March, 2024

Revised 20 March 2024

Accepted 21 March 2024

Keywords:

library ESG, ESG evaluation, ESG Management Evaluation, Development of Evaluation Indicator, library's cooperation, users' rights, occupational safety

ABSTRACT

In this study, the library ESG evaluation indicators specialized for libraries were developed, and based on which, a survey was conducted targeting the actual libraries to evaluate the ESG level of libraries. As a result of the study, first, among the ESG evaluation indicators, the indicators of the social field and the governance field are demonstrating high in which field of the library's ESG evaluation indicators will appear the highest. The social area's high score of 3.70 seems to be because the protection of users' rights, occupational safety, and contribution to society and the local community are very closely related to the original role of the library. Second, it may be seen that there is a difference between the questions in the corporate governance part, while the averages are the same. In the case of library's cooperation, it turned out that it was 3.94 in the necessity evaluation of the evaluation indicators, but it was lowered to 3.61 in the actual library situation evaluation. Meanwhile, in connection with the activities of the director of library and the board of directors, it may be seen that the index evaluation increased from 3.32 to 3.58 in the actual evaluation.

1. Introduction

The concept of sustainable development was introduced by the United Nations in 1972, while recognizing the counterproductive effects of economic development that had continued since the Industrial Revolution and paying attention to the prosperity and well-being of future generations. Ever since, the discussions revolving sustainability began to expand, and the concept of sustainability, which initially focused on environmental aspects, incrementally evolved into an integrated meaning that which considers economic, social, and environmental aspects in a balanced manner.

The origin of the ESG management may be said to be the Club of Rome report. The Club of Rome, which published the Club of Rome Report, was named after the experts from across various fields gathered in Rome with a critical mind on the finitude of the earth. After the first report entitled "The Limits of Growth" was published in 1972, the concept of 'Sustainable Development' was introduced in 1988 with the publication of Our Common Future. In 1992, at the United Nations

* Professor, Department of Library & Information Science, Konkuk University, Korea (irs4u@kku.ac.kr)
International Journal of Knowledge Content Development & Technology, 14(2): 99-139, 2024.
<http://dx.doi.org/10.5865/IJKCT.2024.14.2.099>

Conference on Environment and Development (UNCED), also called the Rio Summit, 'The Rio Declaration' for global environmental problems and sustainable development and the 'Agenda 21' containing detailed codes of action was adopted, and the UN Commission on Sustainable Development (UNCSD) was organized.

As such, the efforts for sustainable development have continuously continued, and at the United Nations Millennium Summit in 2000, the 'Millennium Development Goals (MDGs)' were set, and at the World Summit on Sustainable (WSSD) in 2002, the 'Johannesburg Declaration' was declared, and in 2012, 'The Future We Want' was declared at the Rio+20 Summit (United Nations Conference on Sustainable Development, UNCSD), and as an important tool for sustainable development, the 'Green Economy' agenda was adopted, and in 2015, at the 70th UN General Assembly, it was agreed to implement the Sustainable Development Goals (SDGs) replacing the Millennium Development Goals (MDGs).

Thereafter, the term "ESG" was first used by the UN Global Compact (UNGC) in 2004 and refers to a company's non-financial factors. ESG is the core concept of sustainability, that is, it lies with the extension of sustainable development (Sustainable Development). Sustainability is a term first used by the World Commission on Environment and Development (WCED) in the 1987 Declaration of Our Common Future.

Ever since, with the Rio Declaration in 1992, the term "sustainable development" settled internationally, and discussions on the environment and development began full fledgedly. Sustainability means 'the demand for development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987).

Schaltegger and Hörischs (2017) defined sustainability management as the "management activities aimed at reducing social and environmental negative impacts and contributing to sustainable development". Mayer (2017) viewed sustainability as an intersecting element of the three basic axes (Triple Bottom Line: TBL) of environmental protection, economic development and social development, and considered economic, social and environmental opportunities and risks, placing the emphasis on maintaining a balance between long-term benefits. Such three basic axes, the Triple Bottom Line (TBL), have become an important theoretical foundation for the ESG philosophy.

Knecht and Reich (2014) view that in order to survive through the global competition, as an important factor for success, companies consider strengthening the link between environment, society and governance value creation according to ESG standards, and Werner and Romeike (2020) suggest that the ESG risk has a significant impact on the companies.

ESG, which has become such a viral topic around the world as such, is a combination of the first letters of the English words of environment, society, and governance, and is the three key elements to achieve sustainability in corporate management. They are the core values that are directly related to the sustainable growth and survival of a company, and the detailed elements that form ESG include climate change and carbon emissions, environmental pollution and environmental regulations, the environment including ecosystems and biodiversity, data protection and privacy, among social including human rights, diversity such as gender equality, and community relations, and governance including composition of the board of directors and audit committee, bribery and corruption, and corporate ethics, etc.

ESG has been emphasized because, given the recent increase in the influence of companies on society, such as climate change, there is an increasing perception that ‘non-financial’ indicators may be even more important in evaluating the actual value of companies, and there is a growing perception of corporate social responsibility, and while a discourse has been formed, the investors and consumers have come to value non-financial values rather than financial values when evaluating companies. Hence, many global financial institutions also reflect the ESG evaluation information and use it for corporate evaluation. Spearheaded by the United Kingdom, which introduced the mandatory ESG information disclosure system in 2000, western countries such as Germany, Canada, Belgium, France, and Sweden have also begun to introduce a system that requires the ESG information disclosure. In January 2021, Korea also declared that the ESG disclosures would be mandatory for stock market listed companies with total assets of KRW 2 trillion or more from 2025, and that it plans to expand to all KOSPI listed companies from 2030 (Stella, 2021).

The attempts made to introduce the ESG management to libraries have been found across many places. Hence, in this study, a library ESG evaluation indicators specialized for libraries was developed, and based on which, a survey was conducted targeting actual libraries to evaluate the ESG level of libraries.

2. Previous Studies

As the perception of social and environmental issues increased due to the blast of ESG management, the interest in the ESG management increased, and accordingly, corporate activities corresponding to the ESG evaluation became far more active (Keller, 2015). The influence of ESG evaluation is growing stronger, and companies, institutional private investors, and state institutions investing in consideration of ratings are also increasing (Sparkes & Cowton, 2004). Furthermore, the studies that demonstrate that non-financial performance has a great impact on companies are also actively conducted, with a focus on ESG. Lim (2016) said that the ESG evaluation information and managerial profit management have a positive effect on the corporate value, and Kang and Jeong (2020) demonstrated that ESG activities have a significant positive correlation with the corporate value.

Byeon and Woo (2022) analyzed the history of ESG, the background of its introduction, and its impact on business performance through a literature analysis of domestic and foreign studies. Based on which, they confirmed that finance, personnel, marketing, and production strategies have a direct impact on the company’s growth and increase corporate sustainability through the creation of attractive market factors that companies that introduce and operate ESG have a strong long-term financial as well as non-financial factors, and as such, it is a strong competitive strategy, and presented theoretical and practical implications accordingly.

Kim (2022), in his study of HRD model for sustainability in the ESG management environment, presented the concept of defined sustainable HRD and defined it as “a strategic activity that promotes the accumulation of human, structural, and social capital to create organizational value and enhance sustainability considering the environment, society, and governance.” Furthermore, human capital is accumulated through the understanding and acceptance of ESG management, structural capital

is organizational practice and change for ESG management, and social capital is accumulated through strategies to promote interaction with stakeholders, which in turn enhances corporate sustainability, as explained based on the model of operation for enhancement. In conclusion, he also presented the fact that the future sustainable HRD studies ought to fill in the gap between the conceptual framework and field practice, and at the same time pursue theoretical advancement. A study on the sustainable HRD model in the ESG management environment was also conducted by Kim and Baek (2022), and the sustainable HRD (sustainable HRD) was developed based on the development of the macro environment focused on sustainability discourse and an integrated understanding of ESG management, whose conceptual model of was presented.

Lim and Jeong (2021) presented the ESG management directions for the SMEs through best practices of the SME ESG. First, the activities to develop R&D and eco-friendliness of the distribution supply chain through cooperation with universities were presented. Furthermore, a work environment improvement program was presented through the company-wide communication considering the size of SMEs, and finally, the establishment of governance structure through trust formation by giving autonomy to members was presented.

Suh and Kim (2022) analyzed the ESG management philosophy of Coupang, a domestic company, looked at how Coupang's delivery system called "Rocket Delivery" practices the ESG management, and analyzed the effects of Coupang's ESG management. Based on which, by studying the relationship between the expansion of ESG value creation through sustainable development and Coupang's growth, and revealing the correlation, it is demonstrated that the company's efforts for ESG have a great impact not only on the company's growth but also on our environment and society, and it was claimed that it would be an opportunity to enhance the corporate social responsibility.

Park (2021) specifically presents the reason as to why insurance companies ought to introduce the ESG management. That is, the Insurance Business Act and the Act on Corporate Governance of Financial Companies provide for the risk management systems to protect the interests of stakeholders in insurance companies, such as policy holders, and hence, to comply with this system, insurance companies must consider the ESG factors for their management. Furthermore, insurance companies must manage their assets to ensure stability, liquidity, profitability, and public interest, and must manage their assets with fiduciary duties, so the ESG risks must be considered in compliance with these principles and obligations. And since the directors of an insurance company have fiduciary duties or fidelity to the company under the Commercial Act, the ESG factors must be considered in a way that does not violate such duties.

Meanwhile, it may be seen that a number of studies on ESG using big data have also been conducted, and Lim (2021) utilizes 'Text Mining' to extract ESG related issues and to support ESG management of SMEs, and emphasized that it ought to be actively reflected in the policy for supporting the SMEs' ESG management. Park and Lee (2022) performed semantic network and text mining analysis to reveal the direction of the ESG management activities for the future financial industry and implications for the government. Park et al. (2022) explored domestic ESG research trends through text mining using key keywords and titles of ESG academic papers. Text mining is a big data analysis technique that extracts useful information by discovering certain patterns and rules from various forms of unstructured text such as news, social media, correspondence,

and diaries (Park & Ahn, 2019).

Kim and Kim (2021) claimed that financial groups have a great influence on other industries through the analysis using 'Bigkinds', so there is a need to develop continuous issues to improve the overall level of domestic ESG management. Bigkinds2) is a new news analysis service that combines big data analysis technology with Korea's largest article database, including comprehensive daily newspapers, economic newspapers, regional daily newspapers, and broadcasting companies (Kwon & Son, 2021).

It was surveyed that there was no research conducted in connection with the library ESG management. However, as an example of the library's efforts to practice ESG management, there is a small library in Namsan Library. Lotte Home Shopping signed a business agreement with Namsan Library as part of its resource circulation and ESG management practice, and uses bookshelves and desks, furniture made from upcycling materials such as waste banners, waste vinyl, and waste clothing, to create an eco friendly library, which is a small library. This is a public facility creation using waste resources and an example of establishing an ESG eco friendly environment model in collaboration with public and private institutions (<https://blog.naver.com/tdp0806/222744234548>). Furthermore, there are Shinhan Card's 'Areumin Library' and Hanwha Geolsol's 'Forena Library Creation Project', which are the results of ESG management activities. It has also been claimed that the Neutinamu Library has been carrying out ESG management since its inception. The Neutinamu Library has an impact on the local community (S), maintains transparency of operation and validity of decision-making (G), and this library is environmentally friendly while carrying out various activities (E) in terms of this campaign, recycling, climate action meeting, etc., as it is claimed to be a library that practices the ESG management (<https://blog.naver.com/slowpeaceful/222664254913>).

Building upon the insights gleaned from the analysis of prior studies, it becomes evident that there is a substantial gap in the application and understanding of ESG management within the library sector. Therefore, future research should concentrate on creating and refining a comprehensive ESG management model tailored specifically for libraries. This model should not only incorporate the positive impacts of ESG management highlighted in previous research but also address the unique challenges and opportunities faced by libraries in implementing ESG principles. By doing so, this research could significantly contribute to the sustainable development of libraries, ensuring they remain resilient and relevant in addressing the social, environmental, and governance challenges of our time.

3. Research Design and Methodology

3.1 Research contents and research procedures

As the interest in changes in the climate environment has increased due to the natural disasters caused by climate changes or the expansion of sudden viruses such as COVID-19, and now, even in evaluating companies, they do not simply determine the performance of the financial part, but also include non-financial parts. Based on which, the corporate value and sustainability are also

included for the corporate value evaluation. In the future, it would be impossible to discuss corporate management without the environment, and corporate social responsibility and transparent governance have become the standard for correctly determining companies, and ESG management is at the foundation (Choi, 2021). Libraries, as a tremendous infrastructure organization in this society, are also in a situation where they have no choice but to introduce the ESG management.

Accordingly, in this study, 1) research and analysis of the previous ESG related studies, 2) derivation of library ESG preliminary evaluation indicators based on previous studies, 3) collection of expert FGI opinions on preliminary evaluation indicators, 4) development of the 1st library ESG evaluation indicators based on the expert FGI opinion collection, and 5) through the process of surveying the fitness of the primary library ESG evaluation indicators, the final library ESG evaluation indicators was finalized. Based on which, the extent of ESG management of the actual library was evaluated, and the research procedures are as follows.

Table 1. Research contents and research procedures

Classification	Research Contents
Step 1 Literature study	✓ Investigation and analysis of previous studies related to ESG management evaluation
Step 2 Development of preliminary evaluation indicators	✓ Investigation and analysis of ESG management evaluation indicators shown in previous studies
	✓ Based on which, a total of 131 preliminary evaluation indicators for library ESG management evaluation were developed.
Step 3 FGI expert survey	✓ (Overview) Conducted expert interviews based on the library ESG management evaluation index developed for the first time
	✓ (Target) Conducted with a total of 7 experts
	✓ (Survey contents) The suitability of the firstly derived evaluation index items by sector, opinions on additional evaluation indexes, etc.
	✓ (Survey results) Development of 126 items of primary evaluation index based on FGI results
Step 4 Survey	✓ (Overview) Based on FGI-based modified evaluation index 126 items, on-site librarians conducted an item suitability test
	✓ (Target) 17 representative library librarians and city librarians in each region
	✓ (Survey contents) Awareness survey on library ESG and suitability of library ESG management evaluation index
	✓ (Survey method) Online survey conducted
	✓ (Survey period) 2022.11.01. ~ 2022.11.15 (Approximately 2 weeks)
Step 5 Development of final evaluation index	✓ (Rate of response) 60% Rate of response with a total of 39 replies
	✓ Finally, developed an evaluation index to evaluate the library's ESG management
Step 6 Results of the Library ESG Management Evaluation	✓ (Overview) Investigation of library ESG management based on 113 evaluation indicators
	✓ (Target) 17 representative libraries and 222 representative libraries of local governments
	✓ (Survey contents) Investigation of library ESG management evaluation status
	✓ (Survey method) Online survey conducted
	✓ (Survey period) 2022.11.20. ~ 2022.12.20 (Approximately 4 weeks)
Step 7 Comprehensive analysis and derivation of implications	✓ (Rate of response) Total 32 responses
	✓ Status analysis by item based on the returned result
	✓ Derivation of implications and points of improvement based on analysis results

The processes from steps 1 to 5 in the above table <Table 1> were conducted in the previous study (Noh, 2023), while steps 6 and 7 were carried out in this study. Therefore, <Table 2> represents the final outcomes of the previous study, upon which the actual evaluation of libraries was conducted in this study.

3.2 Library ESG evaluation indicators

In this study, the previous ESG related studies (Noh, 2023) and ESG management activity evaluation indicators of other institutions were surveyed and analyzed, and a draft of ESG evaluation indicators was prepared by adding questions that were considered appropriate for libraries among each management activity. Preliminary evaluation indicators for evaluating the library's ESG management are 41 questions for environment, 49 questions for society, and 41 questions for governance, for a total of 131 questions.

In this study, to review the fitness of the preliminary evaluation indicators developed as such, an FGI expert survey was conducted, and as a result, evaluation indicators questions were added and deleted to yield a total of 126 questions, including 29 questions for environment, 56 questions for society, and 41 questions for governance. Finally, 5 indicators were reduced, resulting in a total of 126 indicators.

Specifically, in the field of environment, future orientation, participation, and aesthetics were all deleted, and the number of questions decreased from 41 to 29 due to the deletion of 1 question in the environmental management execution area and the deletion of 1 question in the environmental performance management and reporting area. Next, for the social field, 1 question was added in social contribution and community, 3 questions in employment equality/workers, and 1 question in accessibility were added, and the new occupational safety area was added, increasing the number of questions from the existing 49 to 56. Finally, in the governance area, while there were no additions or deletions, the three areas of outside directors, the composition and activities of the board of directors, and the remuneration of directors were integrated into the composition and activities of the board of directors.

For the lastly finalized library ESG evaluation indicators, a total of 25 questions were selected for the environment area, a total of 56 questions for the social area, and a total of 32 questions for the governance area. The environmental area consists of 1) environmental management planning, 2) environmental management execution, 3) environmental performance management and reporting, while the social area includes 1) social contribution and local community, 2) stakeholders (cooperating organizations or competing organizations), and 3) equal employment/workers, 4) user rights protection, 5) industrial safety, and 6) accessibility. The areas of governance are consisted of 1) fairness of library, 2) soundness of library, 3) cooperation of library, 4) transparency of library, 5) faithfulness of library, 6) director of library and board of directors, and 7) sustainable management infrastructure.

Table 2. FGI-based primary library ESG management evaluation index (126 Question)

Classification	Area	Indicator Content	Source	Code	
Environmental (E) (29Question)	Environmental management plan (A)	Library establishes an environmental protection plan and invests money to implement it.	II	EA1	
		Library actively establishes library environmental management strategies to become eco-friendly.	II	EA2	
		Library expresses the director's will to practice environmental management and discloses environmental information.	IV	EA3	
		Library is planning environmental strategies and policies, such as management strategies and policies and whether or not to integrate them.	IV	EA4	
		Library establishes plans and goals consistent with the basic direction specified in the environmental management strategy and policy.	IV	EA5	
		Library provides educational programs to raise employees' awareness of environmental management.	II, IV	EA6	
		Library assigns roles, responsibilities, and authorities related to environmental management.	IV	EA7	
		Library is built with energy efficiency in mind.	I	EA8	
		Execution of environmental management (B)	Library is committed to reducing air pollutants generated during service delivery.	II	EB1
			Library is building a management system and minimizing greenhouse gas emissions, such as energy efficiency improvement and green hydrogen utilization technology.	II, IV, V	EB2
	library is building a climate change management system for transition to a carbon-neutral ecosystem.		II	EB3	
	Library carries out preventive environmental management throughout the entire service process.		IV	EB4	
	library builds an environment-friendly supply chain management system and purchases environment-friendly products.		IV	EB5	
	Library is building a related system (preemptive response system) for environmental accident prevention and response.		II, IV, V	EB6	
	Library conducts regular inspections and training activities to prevent and respond to environmental accidents.		II, IV, V	EB7	
	Library considers the interests of stakeholders when engaging in environmental management activities.		IV	EB8	
	Library provides information for environmental awareness.		I	EB9	
	Library strives to improve users' awareness of the library's environmental properties and further promote users' eco-friendly behavior.		V	EB10	
	Environmental performance management and reporting (C)	Library's management activities for environmental protection are reviewed by the board of directors.	II	EC1	
		Library is actively participating in domestic and international environmental certification programs.	II, IV	EC2	

Classification	Area	Indicator Content	Source	Code
		Library has established an appropriate environmental audit system and is implementing it regularly.	II, IV	EC3
		Library discloses key matters and questions related to environmental management activities.	II, IV	EC4
		Library is responding to the CDP (Carbon Disclosure Project) in response to the climate change list.	II	EC5
		Library is certified as a green library.	II, IV	EC6
		Library is green building certified.	IV	EC7
		The library is responding to the Carbon Information Disclosure Project (CDP) in response to the climate change list.	V	EC8
		Library is certified as a green library.	V	EC9
		Library is certified as a green building	V	EC10
		The library is affiliated with an international environmental organization.	II	EC11
Social (S) (56Question)	Social contribution and communities (A)	As a member of the local community, library strives for social development and support for the underprivileged.	II	SA1
		Library has an organization dedicated to community welfare support.	II	SA2
		Library establishes a social contribution policy for community development.	II, IV	SA3
		Library operates a communication channel with local residents to listen to the opinions of the local community.	II, IV	SA4
		library operates social contribution programs (support for low-income people, etc.) for the local community.	II	SA5
		Library strives for the development of local culture and arts.	II	SA6
		Library establishes a local supplier preference policy.	IV	SA7
		library is participating in initiatives related to sustainability management.	V	SA8
		Library is carrying out social contribution activities by utilizing the library's resources.	V	SA9
		Library is trying to build a relationship of trust with the local community.	V	SA10
		Library brings an increase in the economic value of the community.	I	SA11
		Library has had the effect of improving the quality of life of local residents and beneficiaries.	I	SA12
		Library solves the social problems of the region.	I	SA13
		Library conducts business in connection with the geographical and industrial characteristics unique to the region.	I	SA14
		Library utilizes local businesses, local writers, etc.	I	SA15
		Library is effective in improving the local brand image.	I	SA16
		Library contributes to meeting the volunteering needs of its members.	VI	SA17

Classification	Area	Indicator Content	Source	Code		
Stakeholder (B)		Library complies with the library's fair trade principles by extending them to partner institutions.	II	SB1		
		Library is preparing support programs (e.g., technical support, compliance with reasonable delivery prices, etc.) for mutual growth with partner institutions.	II	SB2		
		Library seeks shared growth by distributing guidelines for partner institutions and fulfilling its social responsibilities.	II	SB3		
		Library implements ethical management policies for partner institutions.	II	SB4		
		Library seeks various ways for win-win management with partner organizations.	II	SB5		
		Library establishes a fair trade policy for partner organizations.	IV	SB6		
		Library has a dedicated anti-corruption organization.	IV	SB7		
		Library is conducting ethics education to prevent corruption.	IV	SB8		
		Library evaluates the level of human rights or ethical management of partner organizations when selecting partner organizations.	IV	SB9		
		Library faithfully complies with the laws and regulations in dealing with partners.	V	SB10		
		Library is striving for win-win cooperation, such as supporting the growth of relatively small subcontractors.	V	SB11		
		Library strives to fulfill its social responsibility throughout the supply chain.	V	SB12		
		Employment equality/workers (C)		Various members of the library organization have equal rights without discrimination according to job and employment type.	II	SC1
				Library operates an internal grievance system through which complaints arising from the working environment can be discussed.	II	SC2
Library does not force employees to work for duties that are not specified in the employment contract or for unfair tasks.	II			SC3		
Library is conducting human rights protection campaigns or programs for workers.	II			SC4		
Library has a lot of interest in workers' human rights policies, such as compliance with legal working hours, prohibition of gender discrimination, and prohibition of verbal abuse.	II			SC5		
Library has a worker training discipline policy.	IV			SC6		
Library has a support system for retirees	IV			SC7		
Library establishes a safety and health policy for workers.	IV			SC8		
Library establishes employment security policies for workers.	IV			SC9		
Library guarantees basic rights in the workplace (no forced labor, no child labor, no discrimination, etc.).	IV			SC10		
Library is committed to ensuring the health and safety of workers.	V			SC11		

Classification	Area	Indicator Content	Source	Code
		Library provides a work environment that can improve worker productivity and satisfaction.	V	SC12
		Library contributes to increasing employment stability through the expansion of full-time positions. (Ratio of full-time employees to the total workforce of the organization)	VI	SC13
		Library can be guaranteed freedom of association as provided under Article 20 of the UN Universal Declaration of Human Rights.	VI	SC14
		Library fulfills its social responsibility based on the government's mandatory employment rate for the disabled.	VI	SC15
	User rights protection (D)	Library regularly evaluates and manages user complaints/complaints.	II	SD1
		Library conducts evaluation and certification for user safety.	II	SD2
		Library is establishing a policy to improve user satisfaction.	II, IV	SD3
		library establishes a user personal information management policy.	IV	SD4
		Library is building a dedicated organization and system for user information protection.	V	SD5
		Library is building a system that can accept and respond to users' complaints.	V	SD6
		Library builds a system for service quality management.	V	SD7
	Industrial safety (E)	Library provides facilities and equipment so that everyone, including the disabled and the elderly, can use it easily and without restrictions.	I	SE1
		Library is fully equipped with available facilities and has excellent physical accessibility.	I	SE2
		Outreach services are being implemented for the socially underprivileged, those who are excluded from information, and special users who have difficulty accessing the library.	VI	SE3
	Accessibility (F)	Library is establishing a safety and health promotion system such as safety risk reduction and health and welfare promotion to prevent economic losses and social costs such as loss of industrial manpower and demoralization of members.	VI	SF1
		Library continuously manages factors that threaten the safety and health of members of the organization and strives to reduce the accident rate.	VI	SF2
Governance (G) (41Question)	Fairness of library (A)	In the library, a general manager was selected under the interest of the director.	I	GA1
		Library has a fair process for selecting partners for the project.	I	GA2
		Library is audited, managed, and supervised on the process and results of the project.	I	GA3
		Library does not engage in unfair trade practices.	II	GA4
		Library does not engage in unfair subcontracting practices.	II	GA5

Classification	Area	Indicator Content	Source	Code
		Library conducts business management fairly and ethically in accordance with government policies and laws.	II	GA6
		Library makes decisions through consultation between the parties based on the management guidelines for partner institutions.	II	GA7
		Library strives not to violate the rights of various stakeholders.	II	GA8
	Cooperation of library (B)	Library has a high rate of R&D expenditure.	II	GB1
		Library makes capital investment more active.	II	GB2
	Transparency of library (C)	The library cooperates with business stakeholders such as local institutions and local residents.	I	GC1
		In the library, employees' participation and value empathy are sufficiently achieved.	I	GC2
		The library has channels and systems that can facilitate communication for cooperation.	I	GC3
	Fidelity of library (D)	The library faithfully fulfills its obligation to disclose information.	V	GD1
		The library does not violate accounting standards or undermine the independence of an audit.	V	GD2
		The library goes through the board of directors, committees, etc., and the decision-making process is made to promote the project.	I	GD3
		The library executes the budget fairly and transparently.	I	GD4
		The library shares the business process and performance through appropriate procedures.	I	GD5
	Director of library and board of directors (E)	Library has a dedicated organization for business promotion.	I	GE1
		Library derives performance that meets the established business plan.	I	GE2
	Sustainability management infrastructure (F)	The library protects the director's rights from infringement.	II, IV	GF1
		The director of the library shall exercise active voting rights for the development of the library.	IV	GF2
	the composition and activities of the board of directors (G)	Outside director of the library is selected as a person who has no significant interest in the library.	II, IV	GG1
		Outside directors of the library can independently make decisions.	II, IV	GG2
		The method of appointing directors and the process of selecting candidates for directors are transparent and objective.	V	GG3
		It has independence and appropriateness in the composition of the board of directors.	V	GG4
		The board of directors is faithfully performing its duties and performing its practical functions.	V	GG5
		An audit committee is in place.	V	GG6
		The independence of the audit committee is secured.	V	GG7
		The Board of Directors performs the decision-making and supervision functions of the library.	IV	GG8

Classification	Area	Indicator Content	Source	Code
		The board meetings are held regularly.	IV	GG9
		The board of directors recommends holding at least once a quarter.	IV	GG10
		Directors perform their duties by fulfilling the duty of care of a good manager.		GG11
		The library evaluates the activities of directors fairly.	IV	GG12
		Directors shall be responsible for violations of legal power, articles of incorporation, or negligence of duties.	IV	GG13
		Directors' remuneration is paid at an appropriate level compared to management performance and the level of profit distribution to stakeholders (shareholders and workers).	V	GG14
		A compensation committee has been established to manage the adequacy of the compensation and compensation system.	V	GG15
		The independence of the remuneration committee is secured.	V	GG16
	Sustainable Management Infrastructure (H)	Library is building an organization for the practice of sustainable management.		GH1
		Library transparently and faithfully fulfills its sustainability management-related disclosure obligations.	V	GH2
		Library is establishing company-wide ethical standards and programs to prevent ethical problems.	V	GH3

I : Kim (2021). A Study on ESG Evaluation Indicators for Corporate-led Public Design

II: Friendly (2022). A Study on the Development of ESG Management Scale Based on Consumer Perception.

III: Seok(2021). A Study on the Effect of ESG Indicators on Financial Consumers' Continuous Social Responsibility Investment

IV: Lee and Lee (2020). Current status and direction of development of "Sustainable Management" research.

V: Sustin Best (2021). Sustin Best Company ESG Analysis Report.

VI: Joint Departments concerned (2021). K-ESG Guidelines V 1.0

3.3 Research questions

This study developed the library ESG evaluation indicators, and based on which, surveyed the actual status of the library ESG management evaluation. The research questions raised in this connection are as follows.

- RQ 1. Among the ESG evaluation indicators, in which area will the library demonstrate the highest indicators?
- RQ 2. When developing evaluation indicators, the adequacy of the indicators in the governance structure area turned out to be the lowest. Will this phenomenon appear similarly in the actual evaluation?
- RQ 3. Conversely, the value for the adequacy of the evaluation indicators in the social area turned out to be the highest. Will this phenomenon appear similarly in the actual evaluation?
- RQ 4. Will there be a difference between the adequacy evaluation of the evaluation indicators and the actual evaluation result in the case of the environmental area?

4. Results of the Library ESG Management Evaluation

4.1 Demographic characteristics

The demographic characteristics of the respondents who responded to the survey in this study consisted of questions necessary to understand the library ESG management evaluation results. In particular, the question to identify whether there is a difference in the ESG management depending on the size of the library is important, yet the number of respondents for each size is not large enough to cross-analyze, and so cross-analysis is meaningless, and only the descriptive statistical analysis was performed.

First, as a result of analyzing the characteristics of the respondents who participated in the survey, in terms of gender, 18.75% were male and 81.25% were female, and in terms of age, 75% were in their 30s. 96.88% of the respondents were working-level workers and 3.13% were middle managers, and for the library size, 250,000 books or more were 31.25%, 50,000 books or more to less than 100,000 books were 28.13%, and 100,000 or more to 150,000 were 18.75% in their respective order.

Table 3. Demographic characteristics of the respondents

Question		N	%
Gender	Male	6	18.75
	Female	26	81.25
Age	20s	2	6.25
	30s	24	75.00
	40s	6	18.75
	50s	0	0.00
	60 or older	0	0.00
	Current position	Worker in charge	31
	Middle manager	1	3.13
	Top manager	0	0.00
	Other	0	0.00
Size of library	Less than 50,000 books	2	6.25
	50,000 or more and less than 100,000 books	9	28.13
	100,000 or more and less than 150,000 books	6	18.75
	150,000 or more and less than 200,000 books	3	9.38
	200,000 or more and less than 250,000 books	2	6.25
	250,000 or more books	10	31.25

4.2 Environmental (E) field

The environmental field is largely classified into 1) environmental management plan, 2) environmental management execution, and 3) environmental performance management and reporting, and

consists of a total of 25 questions. Examining the average for each area, it turned out that the environmental management execution area was 2.97, the environmental management plan area was 2.81, and the environmental performance management and reporting area was 2.43. It turned out that the total average of the environmental field was 2.74, which was the lowest compared to the social and governance fields.

Table 4. Average for each area of environmental field

Area	Number of Questions	Overall Average
Environmental management plan	8	2.81
Execution of environmental management	10	2.97
Environmental performance management and reporting	7	2.43
Total	25	2.74

4.2.1 Environmental management plan

As a result of analyzing the library's environmental management plan area, it turned out that 'library is built with energy efficiency in mind' was the highest at 3.16, and along with which, 'library is planning environmental strategies and policies, such as management strategies and policies and whether to integrate them' at 2.97, 'library provides educational programs to raise employees' perception of environmental management' and 'library establishes an environmental protection plan and invests money to implement it' at 2.78 in their respective order.

The average score is 2.81, which may be said that the level of environmental management plan is below average, which is very low. Based on which, it may be seen that the security library is considering energy efficiency, and also planning environmental strategies and policies, such as management strategies and policies and whether to integrate them.

Table 5. Results of the 'Environmental Management Plan' evaluation

Question	Absolutely not		Not		Average		True		Very true		M	Std
	N	%	N	%	N	%	N	%	N	%		
Library establishes an environmental protection plan and invests money to implement it.	3	9.38	12	37.50	9	28.13	5	15.63	3	9.38	2.78	1.128
Library actively establishes library environmental management strategies to become eco-friendly.	3	9.38	12	37.50	11	34.38	4	12.50	2	6.25	2.69	1.030
Library expresses the director's will to practice environmental management and discloses environmental information.	3	9.38	10	31.25	14	43.75	3	9.38	2	6.25	2.72	0.991

Question	Absolutely not Not		Average		True		Very true		M	Std		
	N	%	N	%	N	%	N	%				
Library is planning environmental strategies and policies, such as management strategies and policies and whether or not to integrate them.	2	6.25	9	28.13	10	31.25	10	31.25	1	3.13	2.97	0.999
Library establishes plans and goals consistent with the basic direction specified in the environmental management strategy and policy.	3	9.38	10	31.25	14	43.75	4	12.50	1	3.13	2.69	0.931
Library provides educational programs to raise employees' awareness of environmental management.	2	6.25	12	37.50	9	28.13	8	25.00	1	3.13	2.81	0.998
Library assigns roles, responsibilities, and authorities related to environmental management.	2	6.25	13	40.63	11	34.38	5	15.63	1	3.13	2.69	0.931
Library is built with energy efficiency in mind.	0	0.00	11	34.38	7	21.88	12	37.50	2	6.25	3.16	0.987
Average	2.25	7.03	11.13	34.77	10.63	33.21	6.38	19.92	1.63	5.08	2.81	1.00

4.2.2 Implementation of environmental management

As a result of evaluating the library's environmental management practice area, it turned out that 'library is making efforts to reduce air pollutants generated when providing services' was the highest at 3.28, and along with which, 'library is making efforts to reduce air pollutants generated when providing services' was 3.22, 'library is building an environment friendly supply chain management system and purchasing environment friendly products' at 3.19 in their respective order.

Based on which, library is making efforts to implement environmental management through air pollution, efforts to improve user perception, and purchase of eco friendly products, yet it may be seen that the effort is not being attempted in more than 60% of libraries. It seems that it is realistically difficult for libraries to build a climate change management system.

Table 6. Results of the 'Environmental Management Implementation' evaluation

Question	Absolutely not Not		Average		True		Very true		M	Std		
	N	%	N	%	N	%	N	%				
Library is committed to reducing air pollutants generated during service delivery.	0	0.00	8	25.00	8	25.00	15	46.88	1	3.13	3.28	0.888
Library is building a management system and minimizing greenhouse gas emissions, such as energy efficiency improvement and green hydrogen utilization technology.	2	6.25	15	46.88	6	18.75	8	25.00	1	3.13	2.72	1.023

Question	Absolutely not		Not		Average		True		Very true		M	Std	
	N	%	N	%	N	%	N	%	N	%			
library is building a climate change management system for transition to a carbon-neutral ecosystem.	3	9.38	17	53.13	9	28.13	2	6.25	1	3.13	2.41	0.875	
Library carries out preventive environmental management throughout the entire service process.	1	3.13	12	37.50	13	40.63	5	15.63	1	3.13	2.78	0.870	
library builds an environment-friendly supply chain management system and purchases environment-friendly products.	1	3.13	8	25.00	10	31.25	10	31.25	3	9.38	3.19	1.030	
Library is building a related system (preemptive response system) for environmental accident prevention and response.	2	6.25	10	31.25	8	25.00	10	31.25	2	6.25	3.00	1.078	
Library conducts regular inspections and training activities to prevent and respond to environmental accidents.	0	0.00	10	31.25	9	28.13	11	34.38	2	6.25	3.16	0.954	
Library considers the interests of stakeholders when engaging in environmental management activities.	2	6.25	10	31.25	12	37.50	7	21.88	1	3.13	2.84	0.954	
Library provides information for environmental awareness.	1	3.13	9	28.13	11	34.38	8	25.00	3	9.38	3.09	1.027	
Library strives to improve users' awareness of the library's environmental properties and further promote users' eco-friendly behavior.	0	0.00	10	31.25	8	25.00	11	34.38	11	34.38	3.22	1.008	
Average		1.20	3.75	10.90	34.06	9.40	29.38	8.70	27.19	2.60	8.13	2.97	0.97

4.2.3 Environmental performance management and reporting

As a result of evaluating the library's environmental performance management and reporting areas, all questions demonstrated an average of less than 2.6, and the overall average was the lowest at 2.43 among all 15 areas, demonstrating that the current library has a part on environmental performance management and reporting, which is inadequate.

Examining each question, it turned out that 'libraries have established an appropriate environmental audit system and are regularly implementing it' was 2.66, 'libraries disclose major matters and questions related to environmental management activities' at 2.59, and 'environmental protection related library management activities are reviewed by the board of directors' at 2.56 in their respective order.

Table 7. Evaluation results of the ‘Environmental Performance Management and Reporting’

Question	Absolutely not		Not		Average		True		Very true		M	Std	
	N	%	N	%	N	%	N	%	N	%			
Library’s management activities for environmental protection are reviewed by the board of directors.	4	12.50	12	37.50	11	34.38	4	12.50	1	3.13	2.56	0.982	
Library is actively participating in domestic and international environmental certification programs.	3	9.38	14	43.75	10	31.25	4	12.50	1	3.13	2.56	0.948	
Library has established an appropriate environmental audit system and is implementing it regularly.	2	6.25	15	46.88	8	25.00	6	18.75	1	3.13	2.66	0.971	
Library discloses key matters and questions related to environmental management activities.	2	6.25	14	43.75	12	37.50	3	9.38	1	3.13	2.59	0.875	
Library is responding to the CDP (Carbon Disclosure Project) in response to the climate change list.	6	18.75	13	40.63	10	31.25	2	6.25	1	3.13	2.34	0.971	
Library is certified as a green library.	8	25.00	16	50.00	5	15.63	2	6.25	1	3.13	2.13	0.976	
Library is green building certified.	7	21.88	17	53.13	5	15.63	2	6.25	1	3.13	2.16	0.954	
Average		4.57	14.29	44.43	45.09	8.71	27.23	3.29	10.27	1.00	3.13	2.43	0.95

4.3 Social (S) field

The social area may be largely classified into 1) social contribution and local community, 2) stakeholders (cooperating organizations or competing organizations), 3) equal employment/workers, 4) user rights protection, 5) industrial safety, and 6) accessibility, for a total of 56 questions. Examining the average for each area, it turned out that the overall average was 3.70, followed by industrial safety for 3.98, user rights protection 3.93, and social contribution and local community for 3.72 in their respective order.

Table 8. Average of each area for social field

Area	Number of Questions	Overall Average
Social contribution and communities	17	3.72
Stakeholder	12	3.56
Employment equality/workers	15	3.47
User rights protection	7	3.93
Industrial safety	3	3.98
Accessibility	2	3.54
Total	56	3.70

4.3.1 Social contribution and local community

As a result of evaluating the library's social contribution and community areas, it turned out that 'library strives for the development of local culture and art' was the highest with 4.22, along with 'library as a member of the community develops society and supports the underprivileged' at 4.19, and 'libraries have had the effect of improving the quality of life of local residents and beneficiaries' at 4.13 in their respective order.

Table 9. Results of the 'social contribution and local community' evaluation

Question	Absolutely not		Not		Average		True		Very true		M	Std
	N	%	N	%	N	%	N	%	N	%		
As a member of the local community, library strives for social development and support for the underprivileged.	0	0.00	0	0.00	1	3.13	24	75.00	7	21.88	4.19	0.471
Library has an organization dedicated to community welfare support.	2	6.25	9	28.13	9	28.13	10	31.25	2	6.25	3.03	1.062
Library establishes a social contribution policy for community development.	0	0.00	4	12.50	10	31.25	16	50.00	2	6.25	3.50	0.803
Library operates a communication channel with local residents to listen to the opinions of the local community.	0	0.00	7	21.88	8	25.00	14	43.75	3	9.38	3.41	0.946
library operates social contribution programs (support for low-income people, etc.) for the local community.	0	0.00	4	12.50	3	9.38	20	62.50	5	15.63	3.81	0.859
Library strives for the development of local culture and arts.	0	0.00	1	3.13	3	9.38	16	50.00	12	37.50	4.22	0.751
Library establishes a local supplier preference policy.	0	0.00	3	9.38	8	25.00	17	53.13	4	12.50	3.69	0.821
library is participating in initiatives related to sustainability management.	3	9.38	16	50.00	8	25.00	3	9.38	2	6.25	2.53	1.016
Library is carrying out social contribution activities by utilizing the library's resources.	0	0.00	2	6.25	11	34.38	11	34.38	8	25.00	3.78	0.906
Library is trying to build a relationship of trust with the local community.	0	0.00	1	3.13	5	15.63	17	53.13	9	28.13	4.06	0.759
Library brings an increase in the economic value of the community.	0	0.00	2	6.25	8	25.00	17	53.13	5	15.63	3.78	0.792
Library has had the effect of improving the quality of life of local residents and beneficiaries.	0	0.00	0	0.00	7	21.88	14	43.75	11	34.38	4.13	0.751
Library solves the social problems of the region.	0	0.00	5	15.63	7	21.88	16	50.00	4	12.50	3.59	0.911

Question	Absolutely not Not				Average		True		Very true		M	Std	
	N	%	N	%	N	%	N	%	N	%			
Library conducts business in connection with the geographical and industrial characteristics unique to the region.	0	0.00	4	12.50	8	25.00	16	50.00	4	12.50	3.63	0.871	
Library utilizes local businesses, local writers, etc.	1	3.13	0	0.00	5	15.63	19	59.38	7	21.88	3.97	0.822	
Library is effective in improving the local brand image.	0	0.00	1	3.13	6	18.75	18	56.25	7	21.88	3.97	0.740	
Library contributes to meeting the volunteering needs of its members.	0	0.00	1	3.13	4	12.50	24	75.00	3	9.38	3.91	0.588	
Average		0.35	1.10	3.53	11.03	6.53	20.41	16.00	50.00	5.59	17.47	3.72	0.82

4.3.2 Stakeholders (cooperating organizations or competing organizations)

As a result of evaluating the stakeholder area of the library, it turned out that ‘library conducts ethics education to prevent corruption’ was the highest at 4.03, and along with which, ‘library faithfully complies with laws and regulations in transactions with cooperating organization companies’ at 4.00, ‘library strives to fulfill its social responsibilities in all areas of supply’ at 3.84, and ‘library strives for win-win cooperation, such as supporting the growth of relatively small subcontractors’ at 3.81 in their respective order.

Table 10. Evaluation results of ‘stakeholders (cooperating organizations or competing organizations)’

Question	Absolutely not Not				Average		True		Very true		M	Std
	N	%	N	%	N	%	N	%	N	%		
Library complies with the library’s fair trade principles by extending them to partner institutions.	0	0.00	6	18.75	15	46.88	10	31.25	1	3.13	3.19	0.780
Library is preparing support programs (e.g., technical support, compliance with reasonable delivery prices, etc.) for mutual growth with partner institutions.	0	0.00	5	15.63	15	46.88	9	28.13	3	9.38	3.31	0.859
Library seeks shared growth by distributing guidelines for partner institutions and fulfilling its social responsibilities.	0	0.00	8	25.00	14	43.75	9	28.13	1	3.13	3.09	0.818
Library implements ethical management policies for partner institutions.	0	0.00	5	15.63	12	37.50	12	37.50	3	9.38	3.41	0.875
Library seeks various ways for win-win management with partner organizations.	0	0.00	2	6.25	14	43.75	12	37.50	4	12.50	3.56	0.801
Library establishes a fair trade policy for partner organizations.	0	0.00	3	9.38	7	21.88	19	59.38	3	9.38	3.69	0.780

Question	Absolutely not		Not		Average		True		Very true		M	Std	
	N	%	N	%	N	%	N	%	N	%			
Library has a dedicated anti-corruption organization.	0	0.00	8	25.00	7	21.88	15	46.88	2	6.25	3.34	0.937	
Library is conducting ethics education to prevent corruption.	0	0.00	2	6.25	3	9.38	19	59.38	8	25.00	4.03	0.782	
Library evaluates the level of human rights or ethical management of partner organizations when selecting partner organizations.	0	0.00	6	18.75	9	28.13	14	43.75	3	9.38	3.44	0.914	
Library faithfully complies with the laws and regulations in dealing with partners.	0	0.00	2	6.25	4	12.50	18	56.25	8	25.00	4.00	0.803	
Library is striving for win-win cooperation, such as supporting the growth of relatively small subcontractors.	0	0.00	3	9.38	6	18.75	17	53.13	6	18.75	3.81	0.859	
Library strives to fulfill its social responsibility throughout the supply chain.	0	0.00	2	6.25	7	21.88	17	53.13	6	18.75	3.84	0.808	
Average		0.00	0.00	4.33	13.54	9.42	29.43	14.25	44.53	4.00	12.50	3.56	0.83

4.3.3 Equal employment/workers

As a result of the evaluation of the library's employment equality/worker area, it turned out that 'library establishes a safety and health policy for workers' was the highest at 3.75, and 'library guarantees basic rights in the workplace (prohibition of forced labor, prohibition of child labor, etc.)' at 3.72, 'library strives to ensure the health and safety of its workers' at 3.69, and 'various members of the library organization have equal rights without discrimination according to job and employment type' at 3.66 in their respective order.

Table 11. Evaluation results of 'employment equality/worker'

Question	Absolutely not		Not		Average		True		Very true		M	Std
	N	%	N	%	N	%	N	%	N	%		
Various members of the library organization have equal rights without discrimination according to job and employment type.	0	0.00	6	18.75	3	9.38	19	59.38	4	12.50	3.66	0.937
Library operates an internal grievance system through which complaints arising from the working environment can be discussed.	0	0.00	3	9.38	10	31.25	17	53.13	2	6.25	3.56	0.759
library does not force employees to work for duties that are not specified in the employment contract or for unfair tasks.	2	6.25	3	9.38	8	25.00	15	46.88	4	12.50	3.50	1.047

Question	Absolutely not		Not		Average		True		Very true		M	Std	
	N	%	N	%	N	%	N	%	N	%			
Library is conducting human rights protection campaigns or programs for workers.	2	6.25	4	12.50	10	31.25	14	43.75	2	6.25	3.31	0.998	
Library has a lot of interest in workers' human rights policies, such as compliance with legal working hours, prohibition of gender discrimination, and prohibition of verbal abuse.	1	3.13	4	12.50	7	21.88	16	50.00	4	12.50	3.56	0.982	
Library has a worker training discipline policy.	0	0.00	2	6.25	11	34.38	17	53.13	2	6.25	3.59	0.712	
Library has a support system for retirees	5	15.63	7	21.88	9	28.13	9	28.13	2	6.25	2.88	1.185	
Library establishes a safety and health policy for workers.	0	0.00	1	3.13	9	28.13	19	59.38	3	9.38	3.75	0.672	
Library establishes employment security policies for workers.	0	0.00	2	6.25	13	40.63	13	40.63	4	12.50	3.59	0.798	
Library guarantees basic rights in the workplace (no forced labor, no child labor, no discrimination, etc.).	1	3.13	2	6.25	7	21.88	17	53.13	5	15.63	3.72	0.924	
Library is committed to ensuring the health and safety of workers.	1	3.13	1	3.13	9	28.13	17	53.13	4	12.50	3.69	0.859	
Library provides a work environment that can improve worker productivity and satisfaction.	1	3.13	5	15.63	11	34.38	11	34.38	4	12.50	3.38	1.008	
Library contributes to increasing employment stability through the expansion of full-time positions. (Ratio of full-time employees to the total workforce of the organization)	1	3.13	8	25.00	11	34.38	10	31.25	2	6.25	3.13	0.976	
Library can be guaranteed freedom of association as provided under Article 20 of the UN Universal Declaration of Human Rights.	2	6.25	3	9.38	12	37.50	13	40.63	2	6.25	3.31	0.965	
Library fulfills its social responsibility based on the government's mandatory employment rate for the disabled.	0	0.00	5	15.63	12	37.50	13	40.63	2	6.25	3.38	0.833	
Average		1.07	3.34	3.73	11.67	9.47	29.59	14.67	45.84	3.07	9.58	3.47	0.91

4.3.4 Protection of user rights

As a result of the evaluation of the library's user rights protection area, it turned out that 'library establishes a user personal information management policy' was the highest at 4.16, 'library establishes a policy to enhance user satisfaction' at 4.13, 'library regularly evaluates and manages user complaints/complaints' at 4.06, and 'library conducts evaluation and certification for user safety' at 3.94 in their respective order.

Table 12. Results of the ‘User Rights Protection’ Evaluation

Question	Absolutely not		Not		Average		True		Very true		M	Std						
	N	%	N	%	N	%	N	%	N	%								
Library regularly evaluates and manages user complaints/complaints.	0	0.00	0	0.00	4	12.50	22	68.75	6	18.75	4.06	0.564						
Library conducts evaluation and certification for user safety.	0	0.00	0	0.00	4	12.50	26	81.25	2	6.25	3.94	0.435						
Library is establishing a policy to improve user satisfaction.	0	0.00	0	0.00	2	6.25	24	75.00	6	18.75	4.13	0.492						
library establishes a user personal information management policy.	0	0.00	0	0.00	2	6.25	23	71.88	7	21.88	4.16	0.515						
Library is building a dedicated organization and system for user information protection.	0	0.00	4	12.50	5	15.63	17	53.13	6	18.75	3.78	0.906						
Library is building a system that can accept and respond to users’ complaints.	1	3.13	0	0.00	6	18.75	22	68.75	3	9.38	3.81	0.738						
Library builds a system for service quality management.	0	0.00	1	3.13	11	34.38	18	56.25	2	6.25	3.66	0.653						
Average		0.14		0.45		0.71		2.23		4.86		15.18	21.71	67.86	4.57	14.29	3.93	0.61

4.3.5 Accessibility

As a result of evaluating the library’s accessibility area, it turned out that ‘library is providing facilities and equipment so that everyone, including the disabled and the elderly, can easily use it without restrictions’ was the highest at 4.03, ‘Outreach services are being implemented for the socially underprivileged, those who are excluded from information, and special users who have difficulty coming to the library’ at 4.00, and ‘libraries are fully equipped with available facilities and have excellent physical accessibility’ at 3.91 in their respective order.

Table 13. ‘Accessibility’ evaluation results

Question	Absolutely not		Not		Average		True		Very true		M	Std						
	N	%	N	%	N	%	N	%	N	%								
Library provides facilities and equipment so that everyone, including the disabled and the elderly, can use it easily and without restrictions.	0	0.00	0	0.00	5	15.63	21	65.63	6	18.75	4.03	0.595						
Library is fully equipped with available facilities and has excellent physical accessibility.	0	0.00	1	3.13	6	18.75	20	62.50	5	15.63	3.91	0.689						
Outreach services are being implemented for the socially underprivileged, those who are excluded from information, and special users who have difficulty accessing the library.	0	0.00	1	3.13	7	21.88	15	46.88	9	28.13	4.00	0.803						
Average		0.00		0.00		0.67		2.09		6.00		18.75	18.67	58.34	6.67	20.84	3.98	0.70

4.3.6 Industrial safety

As a result of the evaluation of the occupational safety area of the library, it turned out that ‘library continuously manages factors that threaten the safety and health of members of the organization and strives to reduce the accident rate’ was 3.63, and ‘library is establishing a safety and health promotion system such as reducing safety risks and promoting health and welfare in order to prevent economic losses and social costs such as loss of industrial manpower and demoralization of members’ at 3.44 in their respective order.

Table 14. ‘Industrial safety’ evaluation results

Question	Absolutely		not Not		Average		True		Very true		M	Std	
	N	%	N	%	N	%	N	%	N	%			
Library is establishing a safety and health promotion system such as safety risk reduction and health and welfare promotion to prevent economic losses and social costs such as loss of industrial manpower and demoralization of members.	0	0.00	3	9.38	15	46.88	11	34.38	3	9.38	3.44	0.801	
Library continuously manages factors that threaten the safety and health of members of the organization and strives to reduce the accident rate.	0	0.00	2	6.25	11	34.38	16	50.00	3	9.38	3.63	0.751	
Average		0.00	0.00	2.50	7.82	13.00	40.63	13.50	42.19	3.00	9.38	3.54	0.78

4.4 Governance (G) area

The governance area may be largely classified into 1) fairness of library, 2) library’s cooperation, 3) library’s transparency, 4) library fidelity, 5) director of library and board of directors, and 6) sustainable management infrastructure, for a total of 32 questions. Examining the average for each area, it turned out that the overall average was 3.70, and in detail, library’s transparency was 4.04, fairness of library was 3.92, and library fidelity was 3.69 in their respective order.

Table 15. Average for each area of governance field

Area	Number of Questions	Overall Average
Fairness of library	8	3.92
Cooperation of library	3	3.61
Transparency of library	5	4.04
Fidelity of library	2	3.69
Director of library and board of directors	10	3.58
Sustainability management infrastructure	4	3.34
Total	32	3.70

4.4.1 Fairness of library

As a result of the evaluation of the library's fairness area, it turned out that 'library does not engage in unfair trade practices' and 'library does not engage in unfair subcontracting practices' was 4.19 each, and 'library conducts business management fairly and ethically in accordance with government policies and laws' and 'library makes decisions through discussions between the parties based on the management guidelines for partner institutions' was 4.06 each, and 'library is making efforts not to violate the rights of various stakeholders' at 4.00 in their respective order.

Table 16. Results of the 'fairness of library' evaluation

Question	Absolutely not		Not		Average		True		Very true		M	Std	
	N	%	N	%	N	%	N	%	N	%			
In the library, a general manager was selected under the interest of the director.	0	0.00	8	25.00	7	21.88	13	40.63	4	12.50	3.41	1.012	
Library has a fair process for selecting partners for the project.	1	3.13	3	9.38	11	34.38	12	37.50	5	15.63	3.53	0.983	
Library is audited, managed, and supervised on the process and results of the project.	0	0.00	1	3.13	6	18.75	20	62.50	5	15.63	3.91	0.689	
Library does not engage in unfair trade practices.	0	0.00	0	0.00	3	9.38	20	62.50	9	28.13	4.19	0.592	
Library does not engage in unfair subcontracting practices.	0	0.00	0	0.00	3	9.38	20	62.50	9	28.13	4.19	0.592	
Library conducts business management fairly and ethically in accordance with government policies and laws.	0	0.00	1	3.13	4	12.50	19	59.38	8	25.00	4.06	0.716	
Library makes decisions through consultation between the parties based on the management guidelines for partner institutions.	0	0.00	0	0.00	5	15.63	20	62.50	7	21.88	4.06	0.619	
Library strives not to violate the rights of various stakeholders.	0	0.00	1	3.13	4	12.50	21	65.63	6	18.75	4.00	0.672	
Average		0.13	0.39	1.75	5.47	5.38	16.80	18.13	56.64	6.63	20.71	3.92	0.73

4.4.2 Library's cooperation

As a result of the evaluation of the cooperation area of the library, it turned out that 'library is cooperating with business stakeholders such as local organizations and local residents' was 3.84, 'library is sufficiently engaged in staff participation and value empathy' at 3.53, and 'libraries have channels and systems that can facilitate communication for cooperation' at 3.47 in their respective order.

Table 17. Evaluation results of ‘cooperation of library’

Question	Absolutely not Not				Average		True		Very true		M	Std
	N	%	N	%	N	%	N	%	N	%		
Library is cooperating with project stakeholders such as local organizations and local residents.	0	0.00	0	0.00	10	31.25	17	53.13	5	15.63	3.84	0.677
Library is fully engaged in the participation of employees and consensus on values.	0	0.00	3	9.38	12	37.50	14	43.75	3	9.38	3.53	0.803
Library has channels and systems that can facilitate communication for cooperation.	0	0.00	2	6.25	15	46.88	13	40.63	2	6.25	3.47	0.718
Average	0.00	0.00	1.67	5.21	12.33	38.54	14.67	45.84	3.33	10.42	3.61	0.73

4.4.3 Library’s transparency

As a result of evaluating the library’s transparency area, it turned out that ‘library executes the budget fairly and transparently’ was the highest with 4.25, and ‘library does not violate accounting standards or undermine the independence of accounting audits’ and ‘library’s business process and performance are shared through appropriate procedures’ was 4.03 each, in their respective order.

In particular, the transparency area demonstrated the highest average score of 4.04 among all 15 areas, indicating that the library currently has fairness and transparency in information disclosure, budget execution, and performance sharing, etc.

Table 18. Evaluation results of ‘transparency of library’

Question	Absolutely not Not				Average		True		Very true		M	Std
	N	%	N	%	N	%	N	%	N	%		
Library is faithfully fulfilling its information disclosure obligations.	0	0.00	0	0.00	4	12.50	24	75.00	4	12.50	4.00	0.508
Library does not violate accounting standards or compromise the independence of audits.	0	0.00	0	0.00	5	15.63	21	65.63	6	18.75	4.03	0.595
In the library, the decision-making process for project promotion is made through the board of directors and committees.	1	3.13	1	3.13	4	12.50	21	65.63	5	15.63	3.88	0.833
Library executes its budget fairly and transparently.	0	0.00	0	0.00	1	3.13	22	68.75	9	28.13	4.25	0.508
In the library, business processes and outcomes are shared across appropriate processes.	0	0.00	2	6.25	2	6.25	21	65.63	7	21.88	4.03	0.740
Average	0.20	0.63	0.60	1.88	3.20	10.00	21.80	68.13	6.20	19.38	4.04	0.64

4.4.4 Fidelity of library

As a result of the evaluation of the faithfulness area of the library, it turned out that ‘library derives performance that meets the established business plan’ was 3.84, and ‘library has a dedicated organization for business promotion’ was 3.53 in their respective order.

Table 19. Evaluation results of ‘fidelity of library’

Question	Absolutely not		Not		Average		True		Very true		M	Std
	N	%	N	%	N	%	N	%	N	%		
Library has a dedicated organization for business promotion.	0	0.00	3	9.38	12	37.50	14	43.75	3	9.38	3.53	0.803
Library derives performance that meets the established business plan.	0	0.00	0	0.00	10	31.25	17	53.13	5	15.63	3.84	0.677
Average	0.00	0.00	1.50	4.69	11.00	34.38	15.50	48.44	4.00	12.51	3.69	0.74

4.4.5 Director of library and the board of directors

As a result of evaluating the areas of the director of library and board of directors, it turned out that ‘protect the director of library’s rights from being violated’ was the highest at 3.88, and ‘director of library actively exercises voting rights for library development’ was 3.69, ‘director appointment method and director candidate selection process are transparent and objective’ was 3.36, and ‘library’s outside directors are selected as the persons who have no significant interest in the library’ was 3.59 in their respective order.

Table 20. Evaluation results of ‘director of library’

Question	Absolutely not		Not		Average		True		Very true		M	Std
	N	%	N	%	N	%	N	%	N	%		
Protects the rights of director of library from being infringed upon.	0	0.00	0	0.00	8	25.00	20	62.50	4	12.50	3.88	0.609
Director of library actively exercises voting rights for library development.	1	3.13	1	3.13	8	25.00	19	59.38	3	9.38	3.69	0.821
Outside director of the library is selected as a person who has no significant interest in the library.	0	0.00	3	9.38	9	28.13	18	56.25	2	6.25	3.59	0.756
The director appointment method and director candidate selection process are transparent and objective.	0	0.00	2	6.25	10	31.25	18	56.25	2	6.25	3.63	0.707
Library has independence and appropriateness in the composition of the board of directors.	1	3.13	1	3.13	12	37.50	16	50.00	2	6.25	3.53	0.803

Question	Absolutely not Not				Average		True		Very true		M	Std	
	N	%	N	%	N	%	N	%	N	%			
The board of directors faithfully fulfills its duties and fulfills its practical functions.	1	3.13	1	3.13	14	43.75	14	43.75	2	6.25	3.47	0.803	
The board of directors performs the library's decision-making and oversight functions.	1	3.13	1	3.13	17	53.13	11	34.38	2	6.25	3.38	0.793	
The board of directors meetings are held regularly.	1	3.13	0	0.00	13	40.63	15	46.88	3	9.38	3.59	0.798	
Directors perform their duties with the duty of care of a good manager.	1	3.13	1	3.13	13	40.63	15	46.88	2	6.25	3.50	0.803	
Library fairly evaluates the activities of directors.	0	0.00	1	3.13	15	46.88	13	40.63	3	9.38	3.56	0.716	
Average		0.60	1.88	1.10	3.44	11.90	37.19	15.90	49.69	2.50	7.81	3.58	0.76

4.4.6 Sustainability management infrastructure

As a result of evaluating the library's sustainability management infrastructure area, it turned out that 'Library is establishing company-wide ethical standards and programs to prevent ethical problems' was the highest at 3.41, and 'library is transparent in its obligation to disclose sustainability management' was 3.38, and 'library is building an organization for the practice of sustainable management' was 3.34 in their respective order.

Table 21. Results of the 'Sustainable Management Infrastructure' evaluation

Question	Absolutely not Not				Average		True		Very true		M	Std	
	N	%	N	%	N	%	N	%	N	%			
Library is building an organization for the practice of sustainable management.	1	3.13	4	12.50	12	37.50	13	40.63	2	6.25	3.34	0.902	
Library transparently and faithfully fulfills its sustainability management-related disclosure obligations.	1	3.13	2	6.25	14	43.75	14	43.75	1	3.13	3.38	0.793	
Library is establishing company-wide ethical standards and programs to prevent ethical problems.	0	0.00	4	12.50	12	37.50	15	46.88	1	3.13	3.41	0.756	
Library actively invests in facilities.	0	0.00	8	25.00	10	31.25	12	37.50	2	6.25	3.25	0.916	
Average		0.50	1.57	4.50	14.06	12.00	37.50	13.50	42.19	1.50	4.69	3.35	0.84

5. Discussion and Proposal of the Modification of Evaluation Indicators

5.1 Discussion

In this study, a fact-finding survey was conducted with 239 libraries based on the ESG evaluation indicators, and based on the results, it is intended to discuss the four perspectives.

First, as for which field of ESG evaluation indicators the library will demonstrate the highest, as demonstrated in the table below, the social area and governance area are demonstrating high indicators. The social area has a high score of 3.70 because the protection of users' rights, occupational safety, and contribution to society and the local community are very closely related to the original role of the library. Furthermore, it seems that the governance structure is closely related to the library philosophy that the library ought to be operated transparently and fairly. In the case of the environmental field, the score is very low at 2.74 because the library has not yet established a system for establishing an environmental management plan, and while executing it based on which, and reporting on regular environmental performance management, yet this must be achieved through systemic changes and education towards improvement.

Table 22. Average for each area of environmental field

Area	Detailed Questions	Number of Questions	Overall Average
Environment (E) field	Environmental management plan	8	2.81
	Execution of environmental management	10	2.97
	Environmental performance management and reporting	7	2.43
	Total/Average	25	2.74
Social (S) field	Social contribution and communities	17	3.72
	Stakeholder	12	3.56
	Employment equality/workers	15	3.47
	User rights protection	7	3.93
	Industrial safety	3	3.98
	Accessibility	2	3.54
	Total/Average	56	3.70
Governance (G) field	Fairness of library	8	3.92
	Cooperation of library	3	3.61
	Transparency of library	5	4.04
	Fidelity of library	2	3.69
	Director of library and board of directors	10	3.58
	Sustainability management infrastructure	4	3.34
	Total/Average	32	3.70
Total/Average	113	3.38	

Second, when the evaluation indicators was developed, it turned out that the adequacy of the index for the governance structure was the lowest. However, will this phenomenon appear similar in the actual evaluation? As demonstrated in the table below, the averages are the same, yet there are differences between the questions. In the case of library’s cooperation, it was 3.94 in the necessity evaluation of the evaluation indicators, but it was lowered to 3.61 in the actual library situation evaluation. Meanwhile, in connection with the activities of the director of library and the board of directors, it may be seen that the index evaluation increased from 3.32 to 3.58 for the actual evaluation.

Table 23. Analytical results for differences between indicator evaluation and actual evaluation

Area	Detailed Questions	Evaluation of Indicators	Actual Evaluation
Governance (G) field	Fairness of library	3.89	3.92
	Cooperation of library	3.94	3.61
	Transparency of library	4.02	4.04
	Fidelity of library	3.62	3.69
	Director of library and board of directors	3.32	3.58
	Sustainability management infrastructure	3.39	3.34
	Average	3.70	3.70

Third, on the contrary, the value of the adequacy of the evaluation indicators in the social area was the highest, and this phenomenon will appear similarly in the actual evaluation. As a result, the importance and adequacy of the evaluation indicators appeared high at 3.88, but in the actual evaluation, it may be seen that it is lowered to 3.70. In particular, the question with the most difference is accessibility, and for the index evaluation, the accessibility was very high at 4.19, but in the actual evaluation, it may be seen that it is considerably low at 3.54. This seems to be due to the fact that libraries are often located on the outskirts of the city rather than downtown or in areas with good traffic. Furthermore, for employment equality, the index evaluation of 3.97 is lowering to 3.47 in the actual evaluation. Since the maintenance of equal rights in employment and the maintenance of the appropriateness of the employment conditions of workers are very important parts, it is considered to be a part that must be improved moving forward.

Table 24. Analytical results for differences between indicator evaluation and actual evaluation

Area	Detailed Questions	Evaluation of Indicators	Actual Evaluation
Social (S) field	Social contribution and communities	3.80	3.72
	Stakeholder	3.45	3.56
	Employment equality/workers	3.97	3.47
	User rights protection	4.04	3.93
	Industrial safety	3.85	3.98
	Accessibility	4.19	3.54
	Total/Average	3.88	3.70

Fourth, in the case of the environmental area, the difference between the evaluation of the index and the actual evaluation was compared and analyzed to see if there would be a difference between the adequacy evaluation of the evaluation indicators and the actual evaluation result. As a result, for the index evaluation, it turned out that the average index evaluation value was 3.44, which was in the middle, but in the actual evaluation, it is very low at 2.74. It is recognized that it is very important to establish an environmental protection plan for ESG management, establish a strategy to implement it, and implement it based on specific goals and evaluate its performance. However, in the field, this part is very inadequate as demonstrated. Perhaps, the library ESG management evaluation indicators developed in this study may serve as a guideline which the libraries ought to pursue it in the future.

Table 25. Analytical results for differences between indicator evaluation and actual evaluation

Area	Detailed Questions	Evaluation of Indicators	Actual Evaluation
Environmental (E) field	Environmental management plan	3.57	2.81
	Execution of environmental management	3.63	2.97
	Environmental performance management and reporting	3.12	2.43
Total/Average		3.44	2.74

Based on the results above, it may be said that the librarians revealed through the survey that the proposed library ESG management evaluation indicators is highly recommended, but there is a significant difference from the actual field. This study proposes the development of the library ESG management evaluation indicators for the first time at home and abroad, and it is necessary to improve through continuous discussions in the future.

5.2 Proposal for the revision of evaluation indicators

Based on the results of this study, as demonstrated in <Table 26>, the areas to be considered in the future were proposed based on the evaluation results of the indicator contents and indicator adequacy, and the actual library ESG management evaluation results. If at least one of the adequacy of the indicator and evaluation result exceeds 4.0, the adoption indicator must be selected (◎). It is proposed that if at least one of the adequacy of the indicator and evaluation result is 3.5 or more and less than 4.0, the adoption indicator (○), at least one of the adequacy of the indicator and evaluation result must be 2.5, and if it is less than 3.0, it is proposed as an indicator that needs to be re-verified based on expert opinion (△), and if both are less than 2.5, it is proposed as an indicator that ought to be abolished (X).

Table 26. Modification of the library ESG management evaluation index based on FGI/indicator adequacy evaluation/actual evaluation

Classification	Area	Indicator Content	Indicator	Evaluation	Judgment	Code		
Environmental management (E) (29Question)	Environmental plan (A)	Library establishes an environmental protection plan and invests money to implement it.	3.38	2.78	△	EA1		
		Library actively establishes library environmental management strategies to become eco-friendly.	3.49	2.69	△	EA2		
		Library expresses the director's will to practice environmental management and discloses environmental information.	3.41	2.72	△	EA3		
		Library is planning environmental strategies and policies, such as management strategies and policies and whether or not to integrate them.	3.44	2.97	△	EA4		
		Library establishes plans and goals consistent with the basic direction specified in the environmental management strategy and policy.	3.46	2.69	△	EA5		
		Library provides educational programs to raise employees' awareness of environmental management.	3.82	2.81	○	EA6		
		Library assigns roles, responsibilities, and authorities related to environmental management.	3.64	2.69	○	EA7		
		Library is built with energy efficiency in mind.	3.95	3.16	○	EA8		
		Execution of environmental management (B)		Library is committed to reducing air pollutants generated during service delivery.	3.62	3.28	○	EB1
				Library is building a management system and minimizing greenhouse gas emissions, such as energy efficiency improvement and green hydrogen utilization technology.	3.62	2.72	○	EB2
library is building a climate change management system for transition to a carbon-neutral ecosystem.	3.41			2.41	△	EB3		
Library carries out preventive environmental management throughout the entire service process.	3.64			2.78	○	EB4		
library builds an environment-friendly supply chain management system and purchases environment-friendly products.	3.72			3.19	○	EB5		
Library is building a related system (preemptive response system) for environmental accident prevention and response.	3.62			3.00	○	EB6		
Library conducts regular inspections and training activities to prevent and respond to environmental accidents.	3.49			3.16	△	EB7		
Library considers the interests of stakeholders when engaging in environmental management activities.	3.44			2.84	△	EB8		
Library provides information for environmental awareness.	3.92			3.09	○	EB9		
Library strives to improve users' awareness of the library's environmental properties and further promote users' eco-friendly behavior.	3.85			3.22	○	EB10		
Environmental performance management and reporting (C)		Library's management activities for environmental protection are reviewed by the board of directors.	3.00	2.56	△	EC1		
		Library is actively participating in domestic and international environmental certification programs.	3.10	2.56	△	EC2		
		Library has established an appropriate environmental audit system and is implementing it regularly.	3.13	2.66	△	EC3		

Classification	Area	Indicator Content	Indicator	Evaluation	Judgment	Code
Social (S) (56Question)	Social contribution and communities	Library discloses key matters and questions related to environmental management activities.	3.08	2.59	△	EC4
		Library is responding to the CDP (Carbon Disclosure Project) in response to the climate change list.	3.18	2.34	△	EC5
		Library is certified as a green library.	3.54	2.13	○	EC6
		Library is green building certified.	3.72	2.16	○	EC7
		As a member of the local community, library strives for social development and support for the underprivileged.	4.13	4.19	◎	SA1
		Library has an organization dedicated to community welfare support.	3.44	3.03	△	SA2
		Library establishes a social contribution policy for community development.	3.69	3.50	○	SA3
		Library operates a communication channel with local residents to listen to the opinions of the local community.	3.85	3.41	○	SA4
		library operates social contribution programs (support for low-income people, etc.) for the local community.	3.85	3.81	○	SA5
		Library strives for the development of local culture and arts.	4.41	4.22	◎	SA6
		Library establishes a local supplier preference policy.	3.56	3.69	○	SA7
		library is participating in initiatives related to sustainability management.	3.00	2.53	△	SA8
		Library is carrying out social contribution activities by utilizing the library's resources.	3.79	3.78	○	SA9
		Library is trying to build a relationship of trust with the local community.	3.90	4.06	○	SA10
	Library brings an increase in the economic value of the community.	3.62	3.78	○	SA11	
	Library has had the effect of improving the quality of life of local residents and beneficiaries.	4.13	4.13	◎	SA12	
	Library solves the social problems of the region.	3.62	3.59	○	SA13	
	Library conducts business in connection with the geographical and industrial characteristics unique to the region.	3.56	3.63	○	SA14	
	Library utilizes local businesses, local writers, etc.	4.00	3.97	◎	SA15	
	Library is effective in improving the local brand image.	4.10	3.97	◎	SA16	
	Library contributes to meeting the volunteering needs of its members.	3.92	3.91	○	SA17	
	Stakeholder	Library complies with the library's fair trade principles by extending them to partner institutions.	3.28	3.19	△	SB1
		Library is preparing support programs (e.g., technical support, compliance with reasonable delivery prices, etc.) for mutual growth with partner institutions.	3.41	3.31	△	SB2
		Library seeks shared growth by distributing guidelines for partner institutions and fulfilling its social responsibilities.	3.08	3.09	△	SB3
		Library implements ethical management policies for partner institutions.	3.33	3.41		SB4
		Library seeks various ways for win-win management with partner organizations.	3.69	3.56	○	SB5

Classification	Area	Indicator Content	Indicator	Evaluation	Judgment	Code
		Library establishes a fair trade policy for partner organizations.	3.44	3.69	○	SB6
		Library has a dedicated anti-corruption organization.	3.03	3.34		SB7
		Library is conducting ethics education to prevent corruption.	3.82	4.03	◎	SB8
		Library evaluates the level of human rights or ethical management of partner organizations when selecting partner organizations.	3.05	3.44		SB9
		Library faithfully complies with the laws and regulations in dealing with partners.	3.87	4.00	◎	SB10
		Library is striving for win-win cooperation, such as supporting the growth of relatively small subcontractors.	3.44	3.81	○	SB11
		Library strives to fulfill its social responsibility throughout the supply chain.	3.92	3.84	○	SB12
	Employment equality/ workers	Various members of the library organization have equal rights without discrimination according to job and employment type.	3.87	3.66	○	SC1
		Library operates an internal grievance system through which complaints arising from the working environment can be discussed.	4.10	3.56	◎	SC2
		Library does not force employees to work for duties that are not specified in the employment contract or for unfair tasks.	4.08	3.50	◎	SC3
		Library is conducting human rights protection campaigns or programs for workers.	3.87	3.31	○	SC4
		Library has a lot of interest in workers' human rights policies, such as compliance with legal working hours, prohibition of gender discrimination, and prohibition of verbal abuse.	4.23	3.56	◎	SC5
		Library has a worker training discipline policy.	4.15	3.59	◎	SC6
		Library has a support system for retirees	3.79	2.88	○	SC7
		Library establishes a safety and health policy for workers.	3.87	3.75	○	SC8
		Library establishes employment security policies for workers.	3.77	3.59	○	SC9
		Library guarantees basic rights in the workplace (no forced labor, no child labor, no discrimination, etc.).	4.15	3.72	◎	SC10
		Library is committed to ensuring the health and safety of workers.	4.28	3.69	◎	SC11
		Library provides a work environment that can improve worker productivity and satisfaction.	4.15	3.38	◎	SC12
		Library contributes to increasing employment stability through the expansion of full-time positions. (Ratio of full-time employees to the total workforce of the organization)	4.00	3.13	◎	SC13
		Library can be guaranteed freedom of association as provided under Article 20 of the UN Universal Declaration of Human Rights.	3.87	3.31	○	SC14
		Library fulfills its social responsibility based on the government's mandatory employment rate for the disabled.	3.38	3.38	△	SC15

Classification	Area	Indicator Content	Indicator	Evaluation	Judgment	Code
	User rights protection	Library regularly evaluates and manages user complaints/complaints.	4.03	4.06	◎	SD1
		Library conducts evaluation and certification for user safety.	4.00	3.94	◎	SD2
		Library is establishing a policy to improve user satisfaction.	4.31	4.13	◎	SD3
		library establishes a user personal information management policy.	4.28	4.16	◎	SD4
		Library is building a dedicated organization and system for user information protection.	3.97	3.78	○	SD5
		Library is building a system that can accept and respond to users' complaints.	4.03	3.81	◎	SD6
		Library builds a system for service quality management.	3.64	3.66		SD7
	Accessibility	Library provides facilities and equipment so that everyone, including the disabled and the elderly, can use it easily and without restrictions.	4.38	4.03	◎	SE1
		Library is fully equipped with available facilities and has excellent physical accessibility.	4.10	3.91	◎	SE2
		Outreach services are being implemented for the socially underprivileged, those who are excluded from information, and special users who have difficulty accessing the library.	4.08	4.00	◎	SE3
	Industrial safety	Library is establishing a safety and health promotion system such as safety risk reduction and health and welfare promotion to prevent economic losses and social costs such as loss of industrial manpower and demoralization of members.	3.79	3.44	○	SF1
		Library continuously manages factors that threaten the safety and health of members of the organization and strives to reduce the accident rate.	3.90	3.63	○	SF2
Governance (G) (41Question)	Fairness of library	In the library, a general manager was selected under the interest of the director.	3.44	3.41		GA1
		Library has a fair process for selecting partners for the project.	3.59	3.53	○	GA2
		Library is audited, managed, and supervised on the process and results of the project.	3.64	3.91	○	GA3
		Library does not engage in unfair trade practices.	4.05	4.19	◎	GA4
		Library does not engage in unfair subcontracting practices.	4.05	4.19	◎	GA5
		Library conducts business management fairly and ethically in accordance with government policies and laws.	3.97	4.06	◎	GA6
		Library makes decisions through consultation between the parties based on the management guidelines for partner institutions.	4.15	4.06	◎	GA7
		Library strives not to violate the rights of various stakeholders.	4.21	4.00	◎	GA8
	Cooperation of library	Library is cooperating with project stakeholders such as local organizations and local residents.	3.85	3.84	○	GC1
		Library is fully engaged in the participation of employees and consensus on values.	3.97	3.53	○	GC2

Classification	Area	Indicator Content	Indicator	Evaluation	Judgment	Code
		Library has channels and systems that can facilitate communication for cooperation.	4.00	3.47	◎	GC3
	Transparency of library	Library is faithfully fulfilling its information disclosure obligations.	4.03	4.00	◎	GD1
		Library does not violate accounting standards or compromise the independence of audits.	3.79	4.03	◎	GD2
		In the library, the decision-making process for project promotion is made through the board of directors and committees.	3.82	3.88	○	GD3
		Library executes its budget fairly and transparently.	4.23	4.25	◎	GD4
		In the library, business processes and outcomes are shared across appropriate processes.	4.21	4.03	◎	GD5
	Fidelity of library	Library has a dedicated organization for business promotion.	3.38	3.53	○	GE1
		Library derives performance that meets the established business plan.	3.85	3.84	○	GE2
	Director of library and board of directors	Protects the rights of director of library from being infringed upon.	3.59	3.88	○	GF1
		Director of library actively exercises voting rights for library development.	3.72	3.69	○	GF2
		Outside director of the library is selected as a person who has no significant interest in the library.	3.05	3.59	○	GG1
		The director appointment method and director candidate selection process are transparent and objective.	3.15	3.63	○	GG2
		Library has independence and appropriateness in the composition of the board of directors.	3.08	3.53	○	GG3
		The board of directors faithfully fulfills its duties and fulfills its practical functions.	3.00	3.47	△	GG4
		The board of directors performs the library's decision-making and oversight functions.	3.00	3.38	△	GG5
		The board of directors meetings are held regularly. Directors perform their duties with the duty of care of a good manager.	3.03	3.59	○	GG6
		3.05	3.50	○	GG7	
	Sustainability management infrastructure	Library fairly evaluates the activities of directors.	3.00	3.56	○	GG8
		Library is building an organization for the practice of sustainable management.	3.38	3.34	△	GH1
		Library transparently and faithfully fulfills its sustainability management-related disclosure obligations.	3.26	3.38	△	GH2
		Library is establishing company-wide ethical standards and programs to prevent ethical problems.	3.54	3.41	○	GH3
		Library actively invests in facilities.	3.33	3.25	△	GH4

◎: If any one is greater than 4.0, ○: If any one is greater than or equal to 3.5 and less than 4.0, △: If any one is greater than or equal to 2.5 and less than or equal to 3.0, ×: If both are less than or equal to 2.5.

From the results of this study, three implications can be derived:

Firstly, it emphasizes the importance of ESG management for non-profit institutions. This study underscores the necessity of ESG management for non-profit institutions such as libraries. It suggests that public cultural and artistic institutions should also adopt ESG management strategies to establish

sustainable management models.

Secondly, it highlights the social role of libraries. The findings demonstrate the significant role that libraries play in contributing to social values and local communities. Particularly, the high scores in social ESG evaluation indicators, such as user rights protection and societal contribution, underscore the close alignment of libraries with their original missions.

Thirdly, it emphasizes the importance of environmental protection. The study reveals a lack of environmental ESG management in the evaluated libraries. It emphasizes the necessity of establishing and implementing environmental protection plans with specific goals and evaluating their performance.

6. Conclusion and Recommendations

Since ESG management has been presented as a survival strategy for the sustainable growth of companies amidst various crises of social change, it has been mainly applied for the institutions that generate profits. However, Chang (2022) claimed for the need to introduce the ESG management strategies for public cultural and artistic institutions, and if public cultural and arts institutions introduce ESG management and operate smoothly, it can serve as a model for sustainable management for private arts organizations and institutions. Furthermore, he claimed that the art management model that incorporates management strategy will provide a positive impact on the future development of the management field. Libraries are non-profit institutions such as public cultural and artistic institutions, and are mainly evaluated based on the social or educational values rather than economic output, and the ESG management strategies and evaluation indicators of such institutions are likely to be different. The attempts to introduce the ESG management for the libraries have been found across many places.

Hence, in this study, the library ESG evaluation indicators specialized for libraries were developed, and based on which, a survey was conducted targeting the actual libraries to evaluate the ESG level of libraries.

Towards this end, in this study, 1) research and analysis of the previous ESG related studies, 2) derivation of library ESG preliminary evaluation indicators based on previous studies, 3) collection of expert FGI opinions on preliminary evaluation indicators, and 4) development of the 1st library ESG based on expert FGI opinion collection, and 5) through the process of fitness survey of the primary library ESG evaluation indicators, the library ESG evaluation indicators were finally confirmed. Based on which, the extent of ESG management of the actual library was evaluated.

As a result of the study, first, among the ESG evaluation indicators, the indicators of the social field and the governance field are demonstrating high in which field of the library's ESG evaluation indicators will appear the highest. The social area's high score of 3.70 seems to be because the protection of users' rights, occupational safety, and contribution to society and the local community are very closely related to the original role of the library.

Second, it may be seen that there is a difference between the questions in the corporate governance part, while the averages are the same. In the case of library's cooperation, it turned out that it was 3.94 in the necessity evaluation of the evaluation indicators, but it was lowered to 3.61 in

the actual library situation evaluation. Meanwhile, in connection with the activities of the director of library and the board of directors, it may be seen that the index evaluation increased from 3.32 to 3.58 in the actual evaluation.

Third, in the case of the social area, it turned out that the importance and adequacy of the evaluation indicators was high at 3.88, but in the actual evaluation, it may be seen that it is lowered to 3.70. In particular, the question with the most difference is accessibility. In the index evaluation, the accessibility turned out to be very high at 4.19, but in the actual evaluation, it may be seen that it is considerably lowered to 3.54.

Fourth, in the evaluation of the indicators in the environmental area, the average of the index evaluation values turned out to be 3.44, which was in the middle, yet in the actual evaluation, it is very low at 2.74. It is recognized that it is very important to establish an environmental protection plan for the ESG management, establish a strategy to implement it, and implement it based on specific goals and evaluate its performance, yet in the field, such part is very inadequate.

In this study, the library ESG management evaluation indicators were developed across five stages, and based on which, the extent of ESG management in actual library sites was evaluated. However, as may be seen in other fields, it is very difficult to evaluate the extent of ESG management evaluation of any institution, and since the indicator itself is very important, it may be seen that caution is exercised. Hence, it is absolutely necessary for the various researchers or research institutes to reach an agreement with all stakeholders on indicators over many years of experimental research and discussions from various angles. This study would provide the first domestic and overseas library ESG management evaluation indicators, and it is necessary to develop the library ESG management evaluation indicators by approaching them from various angles by many research institutes and researchers moving forward. In particular, since the libraries around the world have different societies, countries, and economic systems, it would be necessary to apply and utilize the results of this study for the libraries operating in each country.

References

- Byun, Youngjo, & Woo, Seung Han (2022). Research Trend on ESG Management of Corporation. *Clean Technology*, 28(2), 193~20.
- Hwang, Su Deok, Kim, Hee Beom, & Lee, Young Jae (2022). A Study on the Improvement of Evaluation System for ESG Management in Public Institutions. *Journal of the Korean Society of Cadastre*, 38(2), 87-105. <https://doi.org/10.22988/ksc.2022.38.2.008>
- Jeong, Kyeo Woon (2022). A Study on the Development of Consumer Based ESG Scale. Ph. D. dissertation of Department of Business Administration Graduate School of Chosun University. http://chosun.dcollection.net/public_resource/pdf/200000638437_20230109025849.pdf
- Joint Government Offices (2021). K-ESG Guidelines V1.0. Sejong: Ministry of Trade, Industry and Energy.
- Kang, Won, & Jung, Mookwon (2020). Effect of ESG Activities and Firm's Financial Characteristics. *Korean Journal of Final Studies*, 49(5), 681-707.
-

- <https://doi.org/10.26845/KJFS.2020.10.49.5.681>
- Keller, S. (2015). Chancen und Grenzen von ESG-Rating. University of Zurich.
- Kim, Eun-Hae, & Ma, Hee-Young (2020). A Study on the Value Relevance of Corporate Sustainability Management. *Review of Accounting and Policy Studies*, 25(2), 251-277.
<https://doi.org/10.21737/RAPS.2020.05.25.2.251>
- Kim, Jiyeon (2021). A Study on ESG Evaluation Indicators for Corporate-led Public Design. Master Thesis of Public Design Major The Graduate School of Industrial Arts Hongik University.
https://dcoll.hongik.ac.kr/public_resource/pdf/000000027508_20230109021533.pdf
- Knecht, F., & S. Reich (2014). Wertschöpfungsketten: ESG als kritischer Erfolgsfaktor für das Management des gesamten Lebenszyklus. in CSR und Finance: Beitrag und
- Korea Economic Daily (2021). ESG Concept to Practice: K Corporate Survival Plan, Seoul: Korea Economic Daily.
- KOTRA (2021). 2021 Global Market Report 21-026: A successful case of ESG response by foreign companies.
- KPMG (2021). ESG management, corporate answers for a sustainable world and business. SAMJONG KPMG Newsletter.
- Lee, Jeongki, & Rhee, Jay Hyuk (2020). Current Status and Future Directions of Research on “Sustainable Management”: Focusing on the ESG Measurement Index. *Journal of Strategic Management*, 23(2), 65-92. <https://doi.org/10.17786/jsm.2020.23.2.06>
- Lee, Jihye (2022). A Study on the Necessity of Promoting ESG Management of SMEs Through Empirical Analysis of ESG Ratings. *The Journal of Humanities and Social Sciences*, 21, 40(3), 2787-2802. <http://dx.doi.org/10.22143/HSS21.13.2.195>
- Lim, Hyung-Chul, & Jung, Moo-sup (2021). Strategies to Expand SMEs ESG Management through Domestic and Foreign ESG Cases. *Asia-Pacific Journal of Business*, 44(4), 179-192.
<https://doi.org/10.32599/apjb.12.4.202112.179>
- Lim, Jong-Ok (2016). Effects of Business Value of ESG Evaluation Information and Earnings Management. *Korean Business Education Review*, 31(1), 111-139.
- Mayer, K. (2017), Nachhaltigkeit: 111 Fragen und Antworten: Nachschlagewerk zur Umsetzung von CSR im Unternehmen. Springer Gabler.
- Neutinamu Library ESG. <https://blog.naver.com/slowpeaceful/222664254913>.
- Noh, Y. (2023). A Study on the Development of ESG Management Evaluation Index for Library. *Journal of the Korean Society for Library and Information Science*, 57(1), 309-338.
- Schaltegger, S., & J. Hörisch (2017). In Search of the Dominant Rationale in Sustainability Management: Legitimacy-or Profit-Seeking?. *Journal of Business Ethics*, 145(2), 259-276.
- Sejong the Law Firm (2022). The main contents and implications of the new government’s national agenda.
<file:///D:/%EC%B9%B4%EC%B9%B4%EC%98%A4/%EC%83%88%20%EC%A0%95%EB%B6%80%20%EA%B5%AD%EC%A0%95%EA%B3%BC%EC%A0%9C%EC%9D%98%20%EC%A3%BC%EC%9A%94%20%EB%82%B4%EC%9A%A9%EA%B3%BC%20%EC%8B%9C%EC%82%AC%EC%A0%90.pdf>
- Small Library in Namsan Library_Lotte Home Shopping signed a business agreement for resource
-

- circulation and ESG management practice. <<https://blog.naver.com/tdp0806/222744234548>> 2022.07, 20.
- Sparkes, R., & C. J. Cowton (2004). The Maturing of Socially Responsible Investment. A Review of the Developing Link with Corporate Social Responsibility. *Journal of Business Ethics*, 45-57.
- Stella (2022). ESG Management Company Case SK Telecom Introduction.: Meaning, necessity, etc. file:///D:/%EC%B9%B4%EC%B9%B4%EC%98%A4/%EC%83%88%20%EC%A0%95%EB%B6%80%20%EA%B5%AD%EC%A0%95%EA%B3%BC%EC%A0%9C%EC%9D%98%20%EC%A3%BC%EC%9A%94%20%EB%82%B4%EC%9A%A9%EA%B3%BC%20%EC%8B%9C%EC%82%AC%EC%A0%90.pdf
- Suh, Yonggu, & Kim, Tammy (2022). A Study on Coupang's ESG Management: Centering on Rocket Delivery. *Journal of Product Research*, 40(1), 67-75.
<http://dx.doi.org/10.36345/kacst.2022.40.1.009>
- Suk, Jung Il (2021). A Study on the Influence of ESG Indicators on the Continuous Socially Responsible Investment of Financial Consumers, Ph. D. dissertation of Major of Asset Management Service Graduate School of Service Business Kyonggi University.
http://dcollection.kyonggi.ac.kr/public_resource/pdf/000000056255_20230109024543.pdf
- Sustin Best (2021). Sustin Best Company ESG Analysis Report. Seoul: Sustin Best
- WCED, S. W. S. (1987). World Commission on Environment and Development. *Our Common Future*, 17(1), 1-91.
- Werner, G., & F. Romeike (2020). ESG-Risiken und ihre Quantifizierung. in Social Credit Rating: Reputation und Vertrauen Beurteilen.
- Windolph, S. E. (2013). Assessing Corporate Sustainability Through Ratings: Challenges and Their Causes. *Journal of Environmental Sustainability*, 37-57.

[About the author]

Younghee Noh has an MA and PhD In Library and Information Science from Yonsei University, Seoul. She has published more than 50 books, including 3 books awarded as Outstanding Academic Books by Ministry of Culture, Sports and Tourism (Government) and more than 120 papers, including one selected as a Featured Article by the Informed Librarian Online in February 2012. She was listed in the Marquis Who's Who in the World in 2012-2016 and Who's Who in Science and Engineering in 2016-2017. She received research excellence awards from both Konkuk University (2009) and Konkuk University Alumni (2013) as well as recognition by "the award for Teaching Excellence" from Konkuk University in 2014. She received research excellence awards form 'Korean Y. Noh and Y. Shin International Journal of Knowledge Content Development & Technology Vol.9, No.3, 75-101 (September 2019) 101 Library and Information Science Society' in 2014. One of the books she published in 2014, was selected as 'Outstanding Academic Books' by Ministry of Culture, Sports and Tourism in 2015. She received the Awards for Professional Excellence as Asia Library Leaders from Satija Research Foundation in Library and Information Science (India) in

2014. She has been a Chief Editor of World Research Journal of Library and Information Science in Mar 2013 ~ Feb 2016. Since 2004, she has been a Professor in the Department of Library and Information Science at Konkuk University, where she teaches courses in Metadata, Digital Libraries, Processing of InterSnet Information Resources, and Digital Contents.
