



Effect of Corporate Social Responsibility Practice on Sustainable Development: Evidence from Leather Factories in Lume District, Oromia, Ethiopia

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Abstract

This study aims to investigate the effects of corporate social responsibility (CSR) practices on sustainable development (SD) in the leather factories operating in Oromia, Lume district. To address the aims of the research, a cross-sectional quantitative method was used. Data were gathered from 256 samples with 91% response rate. Data were analyzed using descriptive, correlation, and ordinal logistic regression analyses using SPSS version 16 and Jamovi version 2.6.44. Data analysis shows that leather factories are playing their economic and discretionary responsibilities, but low emphasis was given to legal and ethical responsibility practices. Correlation analysis reveals that economic, legal, ethical, and discretionary responsibility practices are significantly and positively associated with SD. Besides, the effects of CSR practices on SD were examined. The result revealed that economic, legal, ethical, and discretionary responsibility practices have a significant and positive effect on sustainable development ($\beta=1.41, 1.24, 1.10, 0.635$, and $p\text{-value} < 0.001$), respectively. Further, it is found that CSR practices explains 18% variations in sustainable development. Thus, the researchers suggest that the government and other concerned bodies have to play their part to engage Lume leather factories in CSR practices through creating awareness, engaging stakeholders, and law enforcement to ensure SD.

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INTRODUCTION

With the increasing agreement in society on environmental degradations like resource depletions, climate change, and other related disasters slowly coming into public sight, it necessitates strategic actions to ensure sustainability. In this regard, sustainable development presently appears to be one of the current issues in solving social, economic, and environmental problems that nations around the world have been encountering (Ye et al., 2020). Sustainable development is considered to be an

important approach for promoting green innovation, which caters to the stakeholders' demand and is aimed at ensuring sustainability from the triple bottom line, namely, people, planet, and profit (Klarin, 2018). In line with this, Sustainable Development Goals were introduced by the United Nations in 2015 to provide a structured framework for sustainable development planning and execution, which clearly highlighted the importance that private business has in ensuring sustainability (Ruggerio, 2021). Ruggerio states that

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sustainable development principles align with an interdisciplinary approach that is green theory, which contends that businesses need to provide close attention in implementing the circular economy, utilizing cutting-edge green technology to ensure overall sustainability. Further, the report points out that firms need to establish a genuine attention for the well-being of the planet through actively integrating sustainable practices into their everyday operations. In line with this, corporate social responsibility practices are believed to serve as strategic tools for the achievement of sustainable development. [Mishra \(2021\)](#) asserts that corporate social responsibility practices play a significant role in ensuring sustainable development. This author states that corporate social responsibility practices by firms directly contribute to the attainment of sustainability.

Statement of the Problem

In the contemporary epoch characterized by economic advancement, the depletion of non-renewable resources has significantly influenced the holistic ecological integrity ([Ye et al., 2020](#)). They reported that different stakeholders reached a common agreement that economic activity results in environmental disaster despite its overall contributions.

More specifically, in Ethiopia, a preliminary assessment made through interviews indicated that economic activities, particularly the community, have been experiencing a multitude of challenges, specifically from leather and leather product manufacturing organizations.

An expanding comprehension of the detrimental consequences resulting from the unsustainable practices of organizations has elicited significant concern among international stakeholders, policymakers, scholars, and governmental bodies to promote sustainable development ([Fobbe & Hilletofh, 2021](#)). Strategies aimed at environmental preservation, including the implementation of environmental management systems, the recycling of waste materials, and the safeguarding of the planet, ought to constitute the fundamental agenda of every organization striving

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 to attain sustainable development. The concept of sustainable development was initially articulated by Brundtland in 1987. She posited that it represents a persistent commitment by an organization to meet the needs and aspirations of contemporary generations while concurrently ensuring that future generations are not obstructed in their capacity to meet their own needs and aspirations ([Ruggerio, 2021](#)). Consequently, it has evolved into a global imperative for every nation worldwide by the year 2030. Among others, SD's global goal was aimed at providing a response to the global problem of climate change, environmental degradation, and social inequality to which every nation is expected to strive to achieve ([Fobbe & Hilletofh, 2021](#)). Developing countries, particularly African countries, are also among the member states that have adopted the global Sustainable Development Goals (SDGs) to ensure sustainable development by 2030. More specifically, Ethiopia, as a developing country that has adopted SDGs and is striving for the attainment of sustainable development by 2030, is integrating SDGs into its Ten-Year Development Plan, which runs from 2021 to 2030 ([Dejenie & Kakiso, 2023](#)).

In this regard, the research findings of [Ye et al. \(2020\)](#) assert that the implementation of corporate social responsibility initiatives is regarded as a strategic instrument to facilitate sustainable development. On the other hand, [Abdelhalim and Eldin \(2019\)](#) and [Goto and Sueyoshi \(2020\)](#) asserted that there is no link between corporate social responsibility and sustainable development. They pointed out that there is no clear-cut relationship between the indicators of corporate social responsibility and sustainable development. This reveals that there exist inclusive findings with regard to the relationship between corporate social responsibility and sustainable development. However, the results of the study did not represent the context of developing countries, particularly Ethiopia. Additionally, methodologically, the outcome of the study relied solely on secondary data, which may not truly represent the situation on the ground.

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Furthermore, co-themed research remains relatively nascent and has not been comprehensively studied. Moreover, researchers made a systematic literature review using the Scopus database over the last five years (2021-2025). Literature over the past 5 years indicates that India is the leading country with 22 publications, followed by China and the United Kingdom with 21 publications each. Malaysia and the Russian Federation are found to be the 4th and 5th countries with 15 and 12 publications, respectively. On the other hand, Indonesia and Vietnam occupy 6th place with 10 publications of 10 each over the past five years. Besides, Poland, South Africa, and Spain were found to occupy the 7th rank, each having 7 publications. This literature review reveals that most of the publications (83) or 63% were in developed countries, which indicates that there is a paucity of research on corporate social responsibility and sustainable development in emerging economies, more specifically in Africa.

Research Questions

1. To what extent are corporate social responsibilities being practiced in the leather factories in the Lume district?
2. What is the association between the corporate social responsibility practices and sustainable development in leather factories in the Lume district?
3. What is the effect of the corporate social responsibility practices of leather factories in the Lume district on sustainable development?

MATERIALS AND METHODS

The researchers utilize scientific methodologies to construct empirical knowledge concerning specific phenomena under examination (Greening, 2019). It is posited that there are two distinct categories of research methodologies that investigators may select for the purpose of conducting their studies, namely, qualitative and quantitative research methods. According to Greening, within the context of quantitative research methodologies, scholars elucidate the phenomena under examination by

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 systematically collecting and analyzing numerical data. Furthermore, Lim (2025) posits that the quantitative research methodology encompasses the acquisition of data via questionnaires, statistical analysis of the acquired data, hypothesis testing, exploration of the interrelationships among variables, and the formulation of conclusions pertaining to specific topics under scrutiny.

Conversely, the qualitative research approach is distinguished by gathering and evaluating qualitative data to describe the phenomenon being studied (Lim, 2025). In relation to the selection of either qualitative or quantitative research methodologies, the authors contend that the determination of which research approach to employ is contingent upon the fundamental research inquiries and the philosophical framework adhered to by the investigator (Gilad & Gilad, 2021). Concerning this, the investigators employed a quantitative research methodology to meet the study objectives. In relation to research design, a descriptive research design was used to describe the existing facts with regard to CSR practices in the leather factories of the Lume district. Additionally, a correlational research design was employed to explain the causal relationship between sustainable development (dependent variable) and corporate social responsibility practices (predictor variable). Further, an explanatory research design was used to explain the effect of predictor variables on the response variable.

Target Population of the Study

The study populations comprise leather factory employees and households. The households residing in nine Gandoota/kebeles, Bika, Ejersa Jorro, Jogo Gudedo, Kolba Godde, Korma Fatolle, Mamo Shoki, Muda Sankalle, Koka Nagawo, and Sharra Dibandib of Lume district, and employees of ten leather factories, namely East Africa Leather Factory, Farida Leather Factory, Friendship Leather Factory, Hodoechen Leather Factory, Hora Leather Factory, Jorge Shoa Leather Factory, Kolba Leather Factory, Lume district Leather Factory, Zingzang Leather Factory, and United

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Vasin Leather Factory, were the target population of the study.

The households in nine *Gandoota/Kebeles* were taken into account as the study population for the research due to their direct experiences with the operations of the mentioned leather factories, and they are expected to provide data related to the subject matter under investigation. Besides, the employees of the leather factories were considered the target population of the research because they have lived experience in the leather firms to respond to the research questions.

As reported by the Lume district Employee and Society Affair Offices in 2024, the total number of full-time workers across ten leather manufacturing establishments amounted to 2,278. The researchers exclusively identified permanent employees of these factories as subjects of the study, given their prolonged tenure and presumed extensive experience regarding the topic under investigation, in contrast to their temporary counterparts. Conversely, the total population residing within nine *Gandoota/kebeles* of Lume Woreda was documented to be 30,195, according to the 2024 report from the Lume district Health Center. From this total population, the researchers selected 6,291 households as the designated target population for this inquiry. These households were deemed suitable participants in the study due to their proximity to the leather factories and their anticipated familiarity with the corporate social responsibility initiatives undertaken by these factories, alongside their involvement in promoting sustainable development. Consequently, the overall target populations for this study comprised employees of leather factories and households, constituting 8,569 participants.

Sample Size and Sampling Technique

Sample size is part of a certain population that is important to ensure sufficient information to conclude the study's findings (Althubaiti, 2023). Althubaiti (2023) contends that researchers must consider variables such as the nature of the inquiry, analytical techniques, temporal constraints, and available resources when determining an

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 appropriate sample size. He argues that the data analysis technique is also a factor to be taken into account in deciding sample size. Different scholars have been suggesting different sample size guidelines for SEM. Despite this, Memon et al. suggested 250 and above sample size as appropriate for CB-SEM and PLS-SEM. In line with this, an a priori sample size calculator was used to calculate the sample size for confirmatory factor analysis as part of structural equation modeling, as cited in (Ali & Ali, 2026).

Given model complexity, an a priori sample size application was used to produce the smallest sample size for detecting the required effect (Zewdie et al., 2022). In order to calculate the minimal sample size for SEM, this application needs to know the magnitude of the expected effect, the degree of statistical power, the estimated probability, and the number of measured and unobserved variables. They reported that the effect size quantifies the degree to which a particular explanatory variable influences the dependent variable.

To ascertain the effect size, researchers have advocated the utilization of the effects observed in prior analogous studies as a reference point. Nonetheless, it is widely recognized that the minimum effect sizes pertinent to Structural Equation Modeling (SEM) are defined as 0.1, 0.3, and 0.5, which are classified as small, moderate, and large effect sizes, respectively; it is advisable to utilize a medium effect size if a researcher is unable to identify an effect from prior studies as a reference point. Consequently, a medium effect size of 0.3 was employed for the calculation of the sample size. Statistical power is another input used in Soper's application, and 0.8 is often used as a commonly used statistical power in social science (Zewdie et al., 2022). Further, the number of unobserved variables and indicators is an additional input used in Soper's prospective sample size calculator for structural equation modeling.

In this research, the number of unobserved variables and indicators is 2 and 7, respectively. Utilizing the requisite information to compute the sample size, the a priori sample size online

Adugna et al., calculator yielded a minimum sample size of 90, while the necessary minimum sample size was determined to be 138. In its fundamental nature, confirmatory factor analysis necessitates a substantial sample size to satisfy an adequate model

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 fit (Dash & Paul, 2021). Therefore, taking into consideration factors such as cost, time, and other variables, the researchers designated a sample size of 280 for the study.

Table 1

Number of workers in each leather Factory and their Respective Sample Size

Names of factories	No of employees	Proportional sample size
East Africa Leather Factory	48	2
Farida Leather Factory	100	3
Friendship Leather Factory	629	21
Hodoechen Leather factory	342	11
Hora Leather Factory	170	5
Jorge Shoa Leather Factory	351	11
Kolba Leather Factory	208	7
Lume district Leather Factory	147	5
Zingzang Leather Factory	221	7
United Vasin Leather Factory	62	2
Total	2278	74

To determine the sample proportion, researchers used the statistical formula suggested by Levine (1981). According to his report, the calculation of the sample proportion is defined as: $n_1 = N_i / (N \times n)$, where n_1 represents the sample proportion, N_i

represents the total population of each stratum, N refers to the entire population, and n is the sample size. Consequently, sample proportions are determined and allocated across each stratum as shown in Tables 1 and 2.

Table 2

Number of Households in each Gandoota/ Kebele and their Sample Size

Name of Gandoota /Kebeles	No of households	Proportional sample size
Bika	400	13
Ejersa Jorro	666	22
Jogo Gudedo	796	26
Kolba Godde	935	31
Korma Fatoile	806	26
Mamo Shoki	732	24
Muda Sankalle	590	19
Koka Nagawo	548	18
Sharra Dibandib	818	27

Sampling Technique

Ahmed (2024) asserts that samples are selected with the help of either non-probability or

probability sampling techniques. He indicated that investigators have to take into account various variables while deciding to either choose one of them or combine them. In the process of conducting

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this research, the researchers employed purposive, quota, and convenience stratified simple random sampling techniques. The purposive sampling technique was used for selecting leather factories operating in the Lume district because the problem in the study area, particularly related to environmental pollution, needs attention from stakeholders, specifically from scholars. The purposive sampling was also employed for choosing the nine Gandoota/Kebeles of the Lume district. These nine gandoota/kebeles were purposively involved because they had been experiencing both negative and positive impacts from the leather firms operating in the Lume district. Besides, quota and convenience sampling techniques were used for addressing households in the nine Gandoota/kebeles of the Lume district. Quota or proportional sample for each gandoota/kebeles was calculated, and then the convenience sampling technique was applied for getting data from the households. Convenience sampling was used to approach the households during data collection because they were busy with their own activities, and the researchers approached them at their convenience. A simple random sampling technique was employed to gather data from employees of the Lume district leather factories, and it was used to provide an equal chance for the employees in responding to the research questions.

Data Source

In conducting this particular inquiry, the researchers employed both primary and secondary data sources. The primary data source was gathered from study participants through the administration of questionnaires. The employment of the primary data source is justified as it enables the researchers to effectively address the fundamental research inquiries or fulfill the designated research objectives. Furthermore, the secondary data source was acquired through a comprehensive review of pertinent literature, serving to corroborate the primary data sources.

Method of Data Collection

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To address the study objectives, the researchers gathered data from households and workers in leather factories. The researchers employed self-administered questionnaires as a method of data gathering. Because a questionnaire allows researchers to collect data from many respondents in a shorter amount of time, it was used as a data collection technique. The researchers used a review of relevant literature to create questionnaires to measure the study's variables.

For gathering data, a questionnaire was distributed to 74 employees of 10 leather factories and 206 households of the 9 *Gandoota/ Kebeles* of Lume district. Of these, 256 questionnaires were returned with 91% response rate.

Model specification

Model specification denotes a decision about which independent variables should be incorporated in or excluded from the model, and should rely on theoretical considerations instead of empirical ones. It is often used to model the association between the outcome variable and predictor variables (Lancsar et al., 2017). In this study, the following model specification was used to determine the effect of corporate social responsibility practices on sustainable development.

$$\text{Log} (P (Y \leq j) / P(Y > j)) = \alpha + \beta_1 \text{ECSR} + \beta_2 \text{LCSR} + \beta_3 \text{EtCSR} + \beta_4 \text{DCSR} + e$$

Where Y is the ordinal outcome variable (sustainable development)

$P(Y \leq j)$ represents the cumulative probability that SD falls into category j or below.

$P(Y > j)$ denotes the cumulative probability that SD falls into a category greater than j

α is the Y intercept or constant value, and β_1 , β_2 , β_3 , and β_4 are the coefficients of corporate social responsibility practices dimensions, namely economic, legal, ethical, and discretionary.

Method of Data Analysis

Descriptive and ordinal logistic regression were used in the analysis of quantitative data obtained from questionnaires using SPSS Jamovi software. To process data for analysis, Jamovi version 2.6.44

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was utilized. Descriptive statistics (mean and standard deviation) were employed by the researchers to evaluate the degree to which Lume district leather factories fulfill their CSR obligations. Conversely, correlational analysis was employed to investigate the correlation between sustainable development and corporate social responsibility. Additionally, an ordinal logistic regression analysis was used to look at how CSR practices affected sustainable development. Given the ordinal character of the research data collected, ordinal logistic regression analysis was utilized.

Assumption Test

Assumption tests are the prerequisite for running ordinal regression analysis (Syiem & Velloso, 2026). In this respect, the outcome variable (sustainable development) and independent

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 variables (corporate social responsibility practices) were measured on an ordinal scale. Thus, it is sufficient to run the ordinal logistic regression analysis method for this study. Besides, a multicollinearity test is another assumption to be checked for running the ordinal logistic regression analysis. According to Kalnins (2018), multicollinearity issues are detected using the level of variance inflation factor (VIF) and tolerance. Kalnins (2018) suggested that there are no multicollinearity issues if the calculated VIF is found to be below 10 and the tolerance is higher than 0.1. Corresponding to this, the computed VIF is determined to be less than 10, and the tolerance value is greater than 0.1 (Table 3), which confirms that there are no issues of multicollinearity in this study.

Table 3

Collinearity Statistics

Item	Variance Inflation Factor(VIF)	Tolerance
ECSR	1.23	0.816
LCSR	1.30	0.771
EtCSR	2.01	0.497
DCSR	1.70	0.587

Further, model goodness-of-fit is another assumption to be checked before using ordinal logistic regression analysis. In line with this, deviance, Akaike Information Criterion (AIC), McFadden's, and the significance value are the indicators for good fitness of the model. Deviance is one of the statistical measures of model goodness of fit, particularly about the degree to which the model predicts the response variable. In order to check the goodness of fit using deviance, researchers run simpler (model with a single predictor) and complex models (model with all predictors included) (Table 4). It is shown that the deviance in the saturated model is less than the deviance in the simpler model, which revealed 7.66% increase in goodness of model fitness relative to the baseline model (Table 4). Another

widely used statistical measure of goodness of model fit is the Akaike Information Criterion (AIC). Analogous to the concept of deviance, a reduced AIC value correlates with an enhanced goodness of fit for the model (Osagie & John, 2020).

In Table 4, the AIC of the saturated model is smaller than the AIC of the baseline model, and it indicates that the goodness of fit is satisfied, showing an improvement by 4.47%. McFadden's R²(pseudo) is the Variance explained, and it is usually used as a measure of the goodness of model fitness. McFadden's R² indicates improvement in Variance explained by independent variables. In this case, the researchers computed McFadden's R² for the baseline and fitted model to understand the change in explanatory power of variables in the

saturated model relative to the baseline model. The saturated model indicates that corporate social responsibility practices explain 18% variation in sustainable development. Table 4 indicates that the

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 saturated McFadden's R2 is relatively greater than that of the baseline model, which reveals improvement in the explanatory power of independent variables by 150.69%.

Table 4

Overall Model Test Saturated Model

Model	Deviance	AIC	R ² N	χ ²	df	p
Baseline model	548	556	0.0718	42.4	1	<.001
Saturated Model	506	520	0.180	84.3	4	<.001

Note. The dependent variable 'SD' has the following order: 1 | 2 | 3 | 4. Models estimated using a sample size of N=256.

The inclusion of predictors within the saturated model results in a substantial and statistically significant enhancement of model fit compared to both the baseline model and an intercept-only model, if utilized as a point of comparison. This implies the comprehensive array of predictors contributes to a more robust representation of the ordinal outcome, as evidenced by reduced values of deviance and AIC, alongside a markedly elevated pseudo-R². Thus, it suffices to run an ordinal logistic regression analysis.

Confirmatory Factor Analysis

The most popular technique for assessing common method variation is confirmatory factor analysis (CFA), which enables researchers to adjust measurement error when estimating several independent connections (Goretzko et al., 2024). The CFA's goal is to align data with the measurement model. The factor arrangement within a particular collection of manifest variables

is frequently validated using CFA. It allows researchers to evaluate the hypothesis that there is a proven relationship between the latent constructs and the observable items. Typically, CFA is used to verify the questionnaires' factorial structure (Goretzko et al., 2024). They state that in order to measure the constructs effectively, the item loadings of the indicators must be at least 0.5. In order to evaluate the validity and reliability of the study's instrument, researchers employ confirmatory factor analysis. Additionally, the results of confirmatory factor analysis show that, except for economic corporate responsibility practices, factor loadings of nearly all indicators are greater than 0.5 (Figure 1 and Table 5).

This result shows that almost all latent construct indicators accurately and substantially measure their corresponding latent constructs at a p-value less than 0.001.

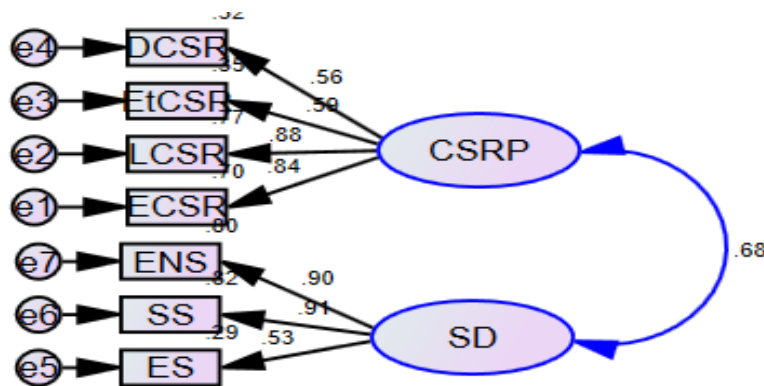


Figure 1. Confirmatory Factor Analysis (CFA)

Validity and Reliability of Data

Construct Reliability

Construct reliability refers to the inter-item consistency of the variables representing the underlying factor to be measured, and it is usually established using composite reliability and Cronbach's Alpha (Bergmann et al., 2022). They

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 reported that Cronbach's Alpha and construct reliability are estimated based on factor loading, and the factor loadings of 0.50 or higher reflect construct reliability. To ensure the construct reliability, the researchers run confirmatory factor analysis, and the standard estimates are higher than 0.50, which affirms the existence of construct reliability.

Table 5

Reliability Test

Constructs	Indicators	Factor Loadings	Cronbach's Alpha	Composite Reliability	AVE
CSR Practices	DCSR	0.839	0.81	0.81	0.53
	EtCSR	0.879			
	LCSR	0.591			
	ECSR	0.565			
	ES	0.535			
Sustainable Dev't	SS	0.907	0.81	0.88	0.73
	ENS	0.896			

Note: Discretionary corporate social responsibility practices (DCSR), Ethical corporate social responsibility practices (EtCSR), Legal corporate social responsibility practices (LCSR), Economic corporate social responsibility practices (ECSR), Economic sustainability (ES), Social sustainability (SS), Environmental sustainability (ENS).

Besides, the Cronbach's Alpha of the unobserved variables was computed, and it was found to be higher than the suggested cut-off point of 0.7 (Table 5). Further, construct reliability was tested, establishing composite reliability, given the fact that the composite reliability test is more relevant in structural equation modeling. According to Bergmann et al. (2022), a composite reliability score of 0.7 or greater shows the existence of good reliability.

In this regard, the composite reliability of each construct, namely corporate social responsibility practices and sustainable development, was calculated on an Excel sheet based on factor loadings, and it is above 0.7 (Table 5) for each construct. This confirms that the measurement tool used in this research is reliable enough to run the model.

Construct validity

Construct validity indicates the extent to which the measurement result represents the unobserved

variable being measured (Indu et al., 2025). They articulate that construct validity constitutes a methodological framework aimed at ensuring that a collection of variables accurately reflects the theoretical latent construct under investigation. Construct validity is concerned with ensuring observed and unobserved latent variables are developed with appropriate definitions and concepts via confirmatory factor analysis (CFA). It is ensured when the factor loading of observed and latent variables is 0.50 or higher. According to them, construct validity is ensured using convergent validity. In this perspective, hereunder, researchers presented a detailed discussion related to how validity is established.

Convergent validity

Convergent validity is a measure of the degree to which an item positively correlates with other items of the same construct. It shows the level of association between several measures of the underlying construct. This reveals that the items of a specific construct should converge, which implies

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they share a high proportion of Variance (Zhu et al., 2025).

Average Variance Extracted (AVE) is essentially used to evaluate convergent validity. AVE is a measure of how much of the indicators' variance may be attributed to the unobserved construct. Zhu et al. (2025) state that an average variance extracted greater than 0.50 denotes empirical support for convergent validity, meaning the underlying construct accounts for more than half of the variation of its indicators.

Additionally, by dividing the sum of squares of factor loadings by the total number of items in the latent construct, the researchers calculated the average variance extracted in this study using an Excel sheet. For each unobserved variable, stakeholder pressure, corporate social responsibility, and sustainable development, the AVE was calculated. The calculated AVEs are 0.53 and 0.73 (Table 5) for the respective latent constructs mentioned above. It is found that AVEs are greater than the suggested threshold of 0.5 for both constructs. Thus, research data are valid from a convergent validity point of view, given that its average variance extracted is higher than 0.5 (Lim, 2026).

Discriminant Validity

Discriminant Validity refers to the degree to which a specific construct is distinct from other constructs

Table 6

Heterotrait-monotrait (HTMT) ratio of correlations

Item	CSRP	SD
CSRP	1.000	0.815
SD	0.815	1.000

Note: Corporate social responsibility practices (CSRP), Sustainable development (SD)

Corporate Social Responsibility Practices by Leather Factories in Lume District

For analysis of corporate social responsibility practices in the leather factories, the researchers' descriptive analysis using SPSS version 16 and data findings are provided in Table 7. In Table 7, it is shown that economic responsibility practices by the

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 (Roemer & Schuberth, 2025). This implies that the constructs should not be highly correlated with each other, which implies that constructs have their own uniqueness. It is important to empirically study the relationship between theoretical concepts. Literature provides various approaches for examining discriminant validity. Among others, the Fornell–Larcker criterion, comparison of cross-loadings, and constrained *phi* approach are some of the yardsticks to assess discriminant validity. However, Franke and Sarstedt (2019) advocate for the utilization of the heterotrait–monotrait ratio of correlations (HTMT) as a measure for evaluating discriminant validity due to its simplicity and extensive applicability. HTMT represents the ratio derived from the arithmetic mean of the heterotrait–heteromethod correlations.

The literature recommends a threshold value for HTMT that ranges from the liberal threshold value of 0.9 to the conservative benchmark of 0.85 (Franke & Sarstedt, 2019). Accordingly, the researchers used Jamovi software to calculate the heterotrait–monotrait (HTMT) ratio of correlations, which is shown in Table 6. They discovered that the HTMT ratio of the correlations matrix fits within the suggested threshold. This demonstrates that this study has no problems with discriminant validity violations.

leather factories are found to have a mean and standard deviation of 4.00 and .418, respectively. This indicates that above average of the respondents had a high perception or agreed that leather factories in Lume district have been playing their economic responsibility, and it shows that respondents had no significant difference in

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responding to items under the economic responsibility dimension.

Besides, [Table 7](#) reveals that the mean value and standard deviation of philanthropic responsibility are 3.92 and .520 respectively. On average, 3.92 participants agreed that leather factories functioning in the Lume district have been practicing their discretionary responsibility, which also means the majority of the respondents had a high perception about items, stating that leather factories in Lume have been playing their philanthropic responsibility. The standard deviation (.520) shows that there are no variations among respondents of the study in answering philanthropic-related research items (questions). On the contrary, legal and ethical responsibilities have a lower mean and standard deviation of 2.39 and .663 and 2.57 and .658 respectively. It is indicated that the mean values of these two

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 responsibilities are below the weight mean (3.22), and this shows that participants of the study disagreed or had low perception with regard to items, illustrating that leather factories in the Lume district have been practicing legal and ethical responsibilities. The analysis made based on the above table indicates that leather factories in the Lume district had been giving high emphasis on economic and discretionary responsibilities. Despite legal and ethical responsibilities being given low attention in leather factories in the Lume district, this has resulted in a negative impact of leather factories' activities on both environmental and social well-being.

As listed in [Table 7](#), economic responsibility is highly practiced by leather factories, followed by philanthropic responsibility, ethical responsibility, and legal responsibility.

Table 7

Corporate Social Responsibility Practices by Leather Factories in Lume District.

CSRPs	N	Minimum	Maximum	Mean	Std. Deviation	Decision	Rank
EcoCSRPs	256	2	5	4.00	.418	High perception	1 st
LegCSRPs	256	1	5	2.39	.663	Low perception	4 th
EthCSRPs	256	1	5	2.57	.658	Low perception	3 rd
PhiCSRPs	256	1	5	3.92	.520	High perception	2 nd

Correlation analysis

According to [Papageorgiou \(2022\)](#), a correlation coefficient(r) < 0.20 reveals a very weak correlation, and a linear relationship metric ranging between 0.20 and 0.39 exhibits a weak association between the variables. Nevertheless, a correlation value from 0.40 to 0.59 shows a moderate association. Further, a correlation index between 0.60 and 0.79 reveals a strong association, and a correlation coefficient > 0.80 shows a very strong relationship between variables. Regarding this, the correlation between corporate social responsibility (economic, legal, ethical, and discretionary) practices and sustainable development dimensions was examined. In [Table 8](#), it is revealed that leather

factories' economic, legal, ethical, and discretionary responsibility practices are significantly, positively, but weakly associated with economic sustainability($r=0.294, 0.356, 0.354, 0.343$ with P -value <0.001), respectively. It means that economic sustainability improves when CSR practices increase in the leather firms of the Lume district. For instance, when leather factories play their economic responsibilities through job creation, improving productivity, maximizing profit, and improving the quality of employees' lives, it results in an increase in economic sustainability. Besides, as leather factories engage in legal responsibilities through running their operations in line with the rules and regulations of the country, they minimize their negative impact on

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the well-being of the environment, which in turn positively contributes to economic sustainability. Concerning ethical responsibility practices, when leather factories practice their ethical responsibilities, operating their business within the ethical framework of society, their externality on society is reduced, which results in an improvement in economic sustainability.

Additionally, discretionary responsibility practices by leather factories through voluntarily contributing towards the welfare of society play a positive role in economic sustainability at the firm level.

On the other hand, economic, ethical, and discretionary responsibility practices of leather factories are significantly, positively, however, weakly correlated with social sustainability ($r=0.362, .381, \text{ and } 0.265$ at $P\text{-value} < 0.001$), respectively. This result implies that economic responsibility practices like creating employment opportunities, improving productivity, and contributing to economic development at large have a positive effect on ensuring the welfare of society, which in turn improves social sustainability at the factory level. Besides, operating within the ethical values of the society by leather factories plays a critical role in promoting the social welfare of the society, and in turn, it results in an improvement in social sustainability. Similarly, philanthropic responsibility practices by the leather firms through participating in public projects aimed at ensuring the welfare of the surrounding society

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 play a positive role in increasing social sustainability at the leather factory level. Further, legal responsibility practices are significantly, positively, and moderately correlated with social sustainability. It signifies that when leather factories in the Lume district run their operations as per the rules and regulations of the country, it leads to a decrease in negative externality on the community, which results in improved social sustainability. **Table 8** reveals that economic, legal, and ethical responsibility practices of the leather factories are significantly, positively, and moderately associated with environmental sustainability ($r=0.409, 0.502, \text{ and } 0.408$ at $P\text{-value} < 0.001$), respectively. In other words, as leather factories play their economic responsibility, taking into account environmental protections, environmental sustainability improves. Likewise, when leather factories operate by obeying rules and regulations, particularly environmental regulations, environmental sustainability increases. Additionally, when leather factories in the Lume district operate in line with the ethical values (ethical framework) of the community, the possibility of polluting the environment declines, and this results in an improvement in environmental sustainability. **Table 8** also reveals that the discretionary responsibility practices of the leather firms are significantly, positively, but weakly related with environmental sustainability ($r=0.297, P\text{-value} < 0.001$).

Table 8

Correlation Matrix

	ES	SS	ENS	ECSR	LCSR	EtCSR	DCSR
ES	—						
SS	0.482***	—					
ENS	0.449***	0.818***	—				
ECSR	0.294***	0.362***	0.409***	—			
LCSR	0.356***	0.518***	0.502***	0.354***	—		
EtCSR	0.354***	0.381***	0.408***	0.369***	0.428***	—	
DCSR	0.343***	0.265***	0.297***	0.214***	0.290***	0.642***	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

This finding implies that leather factories voluntarily engage in keeping environmental well-being projects, resulting in reduced environmental degradation, which leads to an improvement in environmental sustainability in the Lume district in particular. This finding aligns with the findings of Mishra (2021) in that corporate social responsibility practices have positive relationships with sustainable development.

Effect of Corporate Social Responsibility Practices on Sustainable Development

Researchers use an ordinal logistic regression analysis to examine how predictor variables affect the dependent variable. The researchers employed the following ordinal logistic regression model to assess the impact of CSR dimension practices on sustainable development:

$$\text{Log} (P (Y \leq j) / P(Y > j)) = \alpha + \beta_1 \text{ECSR}P + \beta_2 \text{LCSR}P + \beta_3 \text{EtCSR}P + \beta_4 \text{DCSR}P + e.$$

Table 9 shows the effect of CSR practices on sustainable development. The economic responsibility practices by the leather factories have a significant effect on sustainable development (Z-value =6.24, OR=4.08, and p-value <0.001). It indicates that sustainable development increases by the odds of 308% as economic responsibility practices increase, keeping other CSR dimensions practices constant. Moreover, legal responsibility practices have a statistically significant effect on sustainable development (Z-value=7.24, OR=4.14, and p-value <0.001). It shows that an increase in legal responsibility practices in the leather firms

results in an increase in sustainable development by a factor of 314%; other CSR dimensions remain constant. In other words, when leather firms operate as per the rules and regulations of the country, the potential to reduce their externality increases, and sustainable development increases. Additionally, ethical responsibility practices have a significant effect on sustainable development (Z-value=5.46, OR= 3.00 at sig-value <0.001). It shows that ensuring sustainable development increases by the odds of 200% as ethical responsibility practices increase in the leather factories, keeping other CSR dimensions the same.

Further, philanthropic responsibility practices have a significant effect on sustainable development initiatives (Z-value=4.33, OR= 1.89, and P-value<0.001). Indicating also that an increase in discretionary responsibility practices results in ensuring sustainable development by the odds of 89%, while the practices of the other dimension remain constant. The findings of this study have similarities with the previous work of Bacinello et al. (2021) and Emon and Khan (2025) in that corporate social responsibility practices have a positive and significant effect on sustainable development. However, regardless of the robust effect of CSR practices on sustainable development, it only explains 18% of the variation in sustainable development, which implies that a high(82%) variation in sustainable development is explained by variables that were not included in this study.

Table 9

Model Coefficient-SD

Predictor	Estimate	SE	Z	P-value	Odds ratio	95% CI	
						Lower	Upper
Constant	4.407	0.110	39.90	***	82.00	66.041	101.815
ECSR	1.41	0.225	6.24	***	4.08	2.64	6.40
LCSR	1.24	0.196	7.24	***	4.14	2.85	6.17
EtCSR	1.10	0.201	5.46	***	3.00	2.04	4.50
DCSR	0.635	0.147	4.33	***	1.89	1.42	2.52

Note. * p < .05, ** p < .01, *** p < .001

CONCLUSIONS

This study emphasized examining the effect of corporate social responsibility practices and sustainable development in the leather firms in Ethiopia, specifically in the Oromia region, Lume district. As part of this study, the researchers assessed the corporate social responsibility practices in the leather factories in the study area. This finding aligns with the research findings of [Mamo et al.\(2023\)](#) in that corporate social responsibility practices are found at a low level in the Ethiopian context. Besides, the relationship between corporate social responsibility practices and sustainable development was examined. The result of the research demonstrates that corporate social responsibility practices are found in their infancy stage in the leather factories operating in the Lume district. It is found that leather factories have been playing economic and discretionary responsibilities, but have given less emphasis on legal and ethical responsibility practices. The study findings also show that economic, legal, ethical, and philanthropic responsibility practices have a statistically significant and positive correlation with sustainable development.

In addition, the result of the research pointed out that corporate social responsibility practices have a significant and positive effect on sustainable development. This illustrates that corporate social responsibility practices have favorable effects in advancing sustainable development. The result of this study is similar to the findings of [Emon and Khan \(2025\)](#) in that corporate social responsibility practices have a significant and positive effect on sustainable development.

Recommendations

Depending on the result of the study, the following recommendations were forwarded. As part of the United Nations, Ethiopia agreed and planned to achieve sustainable development goals by the coming 2030 G.C. However, corporate social responsibility practices by the leather factories in the Lume district have some gaps. Legal responsibility, particularly environmental

Sci. Technol. Arts Res. J., April–June, 2026, 15(2), 144-160 protection, was not found at an encouraging level. Additionally, waste products management, the natural resource protection system of the leather factories in Lume district did not go in line with the cultural values of the surrounding society, which may have its own negative effect on the attainment of sustainable development that the country aims for.

Thus, leather factories have to work beyond economic and philanthropic responsibility practices, on legal and ethical grounds, specifically concerning environmental protection, to ensure environmental, economic, and social sustainability in a balanced manner. In addition, the researchers suggest that concerned stakeholders, particularly the leather factory owners, leather factory managers, the community, media, and others, have to engage leather factories to work towards achieving sustainable development through playing their role of exerting pressure on leather factories. Furthermore, the researchers recommend that the government engage the leather factories in the Lume district in CSR through law enforcement and by providing benefits (tax reductions) to firms that demonstrate high commitment to CSR.

CRedit Authorship Contribution Statement

Credit: **Adugna Hunde Ganati:** Investigation, Data Curation, Formal analysis, and Writing-original draft. **Chalchissa Amentie Kero:** Conceptualization, Software, Writing-review and editing, and Project Administration. **Misganu Getahun Wodajo:** Methodology, supervision, validation, and Visualization.

Declaration of Interest

The authors affirm the absence of any financial or non-financial interest that may be perceived as having the potential to influence the research presented in this manuscript.

Ethical Approval

Concerning ethical standards, this study got approval from the College of Business and Economics Graduate Council. Furthermore, Wollega University Research Ethics Review

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Committee approved (reference number: WU/REC/821) the study and confirmed that the study has no significant risk to humans, animals, and the environment. In addition, to protect the welfare of the participants and the accuracy of data collected, this study was conducted as per the cultural values and ethical standards of the participants. Hence, this study was conducted in compliance with established ethical guidelines to uphold transparency and integrity in research while protecting participants' welfare.

Data Availability Statement

The empirical data pertinent to the conclusions derived from this research can be obtained upon formal request directed to the corresponding author.

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