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# Non-Financial Performance and Transformational Leadership: Interaction and Impact on Sustainable Development Practices in Jordan

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## Abstract

This article emphasizes the consequences of exploring the relationship between sustainable development practices and non-financial performing factors. Also, it investigates the combined effects of the transformational leadership style on the relationship between sustainable development practices and non-financial performing factors. Using primary data sources, this study reviews the literature on the relationship between the factors of the effectiveness of sustainable development practices of Jordanian contractors and non-financial performance. A total of 290 questionnaires were personally distributed to contractors in the Amman district in Jordan. Only 253 questionnaires were returned and usable for further analysis, which represents a response rate of 87%. Data was collected from October 2020 until April 2020. Hypotheses were tested through multiple regression analysis, and hypotheses for interacting effect were examined through hierarchical multiple regression analysis. Based on the results of the analysis obtained there is a significant effect on the relationship between sustainable development and non-financial performances. It shows that construction companies involved in sustainability practices will be able to improve their performance, which contributed significantly toward the overall firm's performance. Whereas, results from hierarchical multiple regressions showed that transformational leadership had no moderation effect on the non-financial performance in such a way that reaches a higher firm performance level.

**Keywords:** Sustainable Development, Non-Financial Performance, Transformational Leadership, Construction Industry

**JEL Classification Code:** P17, L20, L25, L74, Q56

## 1. Introduction

The concept of sustainable development has become common among various sectors, including the construction industry. The importance of sustainable development in the construction industry comes from its major impacts on the environment (Butlin, 1989). Additionally, the construction industry is vital to human society and economic institutions.

The construction industry contributes to achieving the following sustainable developments goals: 1) create structures and buildings, which offer more satisfaction, wellbeing, and added value to clients, 2) increase their profitability and competitiveness, 3) offer equitable respect and treatment for its stakeholders, 4) reduce its impact on energy consumption and natural resources, and 5) improve and better protect natural environment (Becchio et al., 2009). Construction companies must understand that they cause environmental degradation and should make tangible arrangements to address the consequences (DETR, 2000; Omer & Noguchi, 2020).

In 2015, the government of Jordan published and launched Jordan's 2025 National Visions and Strategy, which discussed the country's vision to become ecologically sustainable. Sustainable development is one of the top issues of 2025, the 10-year (2017–2025) blueprint for economic and social development, which should have a comprehensive framework for sustainable development. The problems of environmental dissatisfaction with construction projects

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have regularly appeared in media. The government has urged professional developers to implement proactive solutions to promote sustainable development within their domain and to be responsive to the necessity for better economic, social, and environmental protection (MOP, 2015).

Alsubeh (2013) highlighted that construction in Jordan fails to integrate sustainability, which may cause construction to not function properly. If a country needs to be environmentally sustainable, also, the construction industry should take into account the economic, social, environmental, and political context of Jordan and propose solutions in response to these characteristics (Alsubeh, 2013; Jundi et al., 2019). The problems of environmental discontentment with constructional practices have frequently emerged in media. Regrettably, in Jordan, the issue of sustainable housing development is still new, and no proactive solutions have been taken to develop the construction sector. General frameworks and indicators for the construction industry are lacking, and KPIs targeting sustainable practices are absent (Alsubeh, 2013).

As previously mentioned, because of the limited population and the unavailability of required resources, Jordan has only struggled with basic structural buildings. Owing to a lack of expertise and management personnel, local businesses cannot tackle complex projects. Many local projects have developed typical appropriate and planned architecture (Alsubeh, 2013). Developing countries must adopt sustainable construction so they can improve environmental, social, and economic benefits both for today and for the future to improve the quality of life of current and future generations. The conventional dream for good construction project performance, which indicates the results of constructional cost, operating time, and constructional quality (Alsubeh, 2013), will be ineffective if all success factors do not comply with sustainability performance.

Leadership is a core element of success in any activity involving cooperation among groups. Compared with other industries, in the construction industry, as observed in several studies, transformation leadership is even more crucial (Duy et al., 2004; Lee, 2018). Lee (2018) stressed the role of a leader in cultivating a positive team member working climate. The success or failure of a project depends heavily on the project manager. It has been found that the efficient management of many building project stakeholders could ease their goals and prevent combat. The leadership of the construction industry is important at all levels (Odusami, 2002). Therefore, developing countries need better leadership in the construction industry more than any other country.

## 2. Literature Review and Hypotheses Development

In the current market economy, improving performance and accomplishments is an essential part of every business

enterprise. This change is the first step for all these organizations to make profits and to contribute to economic growth. (Agrawal, 2012). Understanding the exact features of non-financial performance and its outcomes can require reviewing the early decades of economical sciences when most economists at that time viewed utility as independent of the non-financial nature of things. Subsequently, economists developed empirical descriptions of non-financial performance and its outcomes, demonstrating how such concepts strongly influence organization survival.

Several past studies have shown how sustainable development such as environmental, economic, and social was positively related to non-financial performance in various settings and countries (Beloor et al., 2017; Ramdhani et al., 2017; Shin et al., 2017; Lee & Yoon, 2018; Mariño-Romero et al., 2018; Nayak et al., 2018; Verčič & Čorić, 2018; Siew et al., 2016). For instance, in a study of listed public sector construction companies in Jordan, it was found that construction firms that released non-financial reports showed that they performed better than those which did not (Beloor et al., 2017). Similarly, the findings in a study examining a sample of 230 Spain-based hotels indicate that environmental protection has a positive impact on revenues (Mariño-Romero et al., 2018).

Verčič and Čorić (2018) also reported similar findings when they investigated 550 college business students. The findings indicated that students give socially responsible organizations a positive reputation. However, in another study, data derived from 214 shipping industry in South Korea, where the paper investigated the influence of sustainable management (SM) on customer satisfaction (CS), the findings also indicated that environmental and economic issues of SM have an important role in enhancing CS (Shin et al., 2017).

In another study, Lee and Yoon (2018) conducted a field survey using data from the 38 Dow Jones Sustainability Index Korean organizations in 2009. The results supported most of the study hypotheses. Nayak et al. (2018) examined a sample of 279 employees of private health units in India and the results of the data analysis were significant. The findings also revealed a significant partial mediating influence. In another similar study, Beloor et al. (2017) found that the quality of work-life systems may influence the employee's commitment to the organization and can also improve the retention rate.

Finally, a study was developed by using constructs to describe how the corporate culture dimension influences employee commitment. The findings showed that the employee's commitment to the organization can be better through corporate culture (Ramdhani et al., 2017). The study proposed the following hypotheses based on the above analyses (see Figure 1):

*H1a: There is a positive relationship between social perspective and the customer satisfaction of construction companies.*

**H1b:** *There is a positive relationship between social perspective and the reputation of construction companies.*

**H1c:** *There is a positive relationship between social perspective and the employee commitment of construction companies.*

**H1d:** *There is a positive relationship between environmental perspective and the customer satisfaction of construction companies.*

**H1e:** *There is a positive relationship between environmental perspective and the reputation of construction companies.*

**H1f:** *There is a positive relationship between environmental perspective and the employee commitment of construction companies.*

**H1g:** *There is a positive relationship between economic perspective and the customer satisfaction of construction companies.*

**H1h:** *There is a positive relationship between economic perspective and the reputation of construction companies.*

**H1i:** *There is a positive relationship between economic perspective and the employee commitment of construction companies.*

The most commonly studied leadership model in the past 20 years is transformation leadership (Lee, 2018). This interest was acquired based on the supposed many positive transformational leadership style effects on the results, satisfaction, and effectiveness of followers

As mentioned above transformational leadership appears to play a positive and statistically significant role individually and in a moderating sense in another context. There is not

enough transformational leadership research based on moderating sustainable development practices-to-non-financial performance relationships. Hsieh and Chan (2012) stated CSR practices are a source of positive reputation, which can enhance employees' commitment. Similarly, Jacobsen and Staniok (2018) supported transformational leadership's moderating role in the relationship between the organizational commitment of managers and employees. In the same context, past researchers (Du et al., 2013) confirmed that transformational leadership can stimulate employees' CSR engagement. Hence, transformational leadership can improve employees' organizational commitment because it can increase the organizational reputation and enhance employees' welfare (Astuty & Udin, 2020). Yujie (2018) conducted a study on a total of 306 employees voluntarily, and the findings showed that transformational leadership partially moderated the relationship between CSR engagement and employee organizational commitment. In another study, Buisman (2009) showed that the degree of leadership in high-conflict situations does not have a significant moderation effect. Overall, this research will address a research gap as there are limited studies that examine the role of transformational leadership in the relationship between sustainable development practices and the financial performance of construction firms in Jordan (Table 1). In developing countries, there are few studies aimed at analysing and describing these factors while the study adopts a full approach exploring three dimensions- the environmental, social, and economic perspective sustainable development practices, in particular. The study proposed the following hypothesis (see Figure 1):

**Table 1:** Summary of Past Studies that Investigate the Variables of the Study

Author/Year	SDP			NFP	TL	Findings
	ENV	ECO	SOC			
Hsieh and Chan (2012)	x	x	x	x		Positive
Beloor et al. (2017)			x	x		Positive
Lee and Yoon (2018)	x	x	x	x		Positive
Mariño-Romero et al. (2018)	x					Positive
Ramdhani et al. (2017)			x	x		Positive
Shin et al. (2017)	x	x		x		Positive
Verčič and Čorić (2018)			x	x		Positive
Nayak et al., 2018			x	x	x	Partial mediating
Jacobsen and Staniok (2018)				x	x	Moderated
Du et al. (2013)				x	x	Moderated
Yujie (2018)				x	x	Partially moderated
Buisman (2009)				x	x	Not sig, moderated

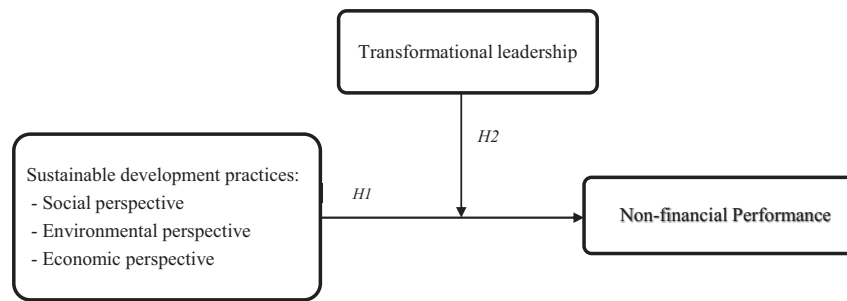


Figure 1: Theoretical Framework

**H2:** Transformational leadership exerts a moderating effect on the relationship between sustainable development practices and the non-financial performance of construction companies.

### 3. Research Methodology

#### 3.1. Data Collection

The main objective of this study is to examine the relationship between sustainable development practices (SDP) and the non-financial performance of construction companies in Jordan. In addition, it examines the moderation effect of transformational leadership in enhancing these relationships. The theoretical framework integrates the three main aspects of sustainability (i.e., environmental, economic, and social aspects) to test the relationship between sustainable development practices and the non-financial performance of construction companies (Figure 1).

The construction companies operating in Jordan located in all regions are 3060, and they are classified into six categories. Construction companies registered under the Jordanian Construction Contractors Association (JCCA) were selected for this study. As surveying all construction companies in all regions would be impractical, only one region was chosen. The Middle region was selected because its construction companies have the greatest number of contractors. The total population for this study was 1113 active contractors registered under JCCA in December 2019 (JCCA, 2019). The list of contractors was obtained from JCCA. This study is a survey and involves testing hypotheses to understand Jordan's construction companies' relationship between sustainable development practices and non-financial performance. This study is also a correlational one, i.e., an examination of the relationship between implementation of sustainability practices and non-financial performance of construction companies in Jordan. A managing director or his appointed representative represents each company.

To achieve a high response rate, the researcher agreed, however, to distribute 290 questionnaires. Cohen et al. (2014) suggest that the entire population can be generalized

with a broad sample. In this study, all 290 respondents from entire construction companies were selected based on random systematic sampling. The benefits of this strategy are: it expands the sample to the entire population and is very easy to apply. Systematic random sampling takes a variety of steps. First, the population should be specified. The population is 1113 in this study. Second, specify the required sample size. This study has a sample size of 290. Third, get a population list. JCCA had been kind enough to provide a list of construction companies. Fourth, find the K (sampling interval). Divide the population by the sample size requested. K is equivalent to 4 in this case ( $1113/290 = 3.83$ ). Fifth, ascertain the total number of respondents for each category under study. Eventually, for each group, the researcher must select a random number as the beginning number. The sample is repeatedly used in each third construction firm.

In this study, all 290 respondents from all Middle region contractors were selected through regular random sampling. Only 253 questionnaires were completed, returned, and considered appropriate for analytical purposes. This represents a response rate of 87%. The measurement was taken at a 5-point scale with 1 = strongly disagreed, 2 = disagreed, 3 = not sure, 4 = agreed, and 5 = strongly agreed. This study further explores the moderation effect of transformational leadership in these relationships. The three key aspects of sustainability are environmental, economic, and social, and are integrated into the theoretical framework. Around 68 items have been adopted to capture the above dimensions in terms of sustainable development, non-financial performance, and approximately 23 items (23) to measure the moderator variable (transformational leadership). The data collected through questionnaires; this study is a cross-sectional one as it describes the current situation of construction companies in Jordan. In summary, this study is conclusive as it tests specific hypotheses and investigates specific relationships between variables.

#### 3.2. Items Measurement

Both positive and negative relationships are established through the independent and dependent variables (Sekaran

& Bougie, 2016). This study has three main independent variables, namely, environmental, social, and economic aspects, in addition to the moderator variable (TL).

- **Environmental issues:** We adopted 17 questions (i.e. items) developed by Rashideh (2010) The number of questions used is eighteen; eight for Environmental impact, seven for Environmental efficiency, And three for Volunteer actions.
- **Social issues:** we adopted questions items from Rashideh (2010) which included fifteen questions, nine for Ethics indicators, and six for Welfare indicators.
- **Economic issues:** The numbers of questions used are seventeen; nine for financial indicators, and seven for Human capital indicators. The items are adopted from previous research for each construct (Rashideh, 2010).
- **Non-financial performance:** The non-financial variable has three main dimensions: customer satisfaction, reputation, and employee commitment. Customer satisfaction is measured by nine items, reputation by five items; employee commitment, 4 items from adopted from (Naicker, 2008; Feldman et al., 2014; Astuty & Udin, 2020).
- **Transformational Leadership (TL):** we employed twenty-three questions (23) were adopted to measure the moderator variable transformational leadership. All items are adopted from previous research (Bassioni et al., 2005; Nguyen et al., 2019).

## 4. Data Analysis

### 4.1. Multivariate Analysis

Factor analysis is the main technique of analysis used in this study. This study covers all aspects of the sustainability and non-financial performance of construction companies in Jordan as well as the effect of TL as a moderator on these relationships. The general strategy requires testing the interaction through hierarchical multiple regression analysis to test the effects of the variable moderator.

We tested the interaction effect between the independent variable and the moderator to check moderation and whether such an effect would be significant in the prediction of the dependent variable. The outcomes, i.e. the new factors from the factor analysis exercise, were subsequently tested using one-way analysis of variance (ANOVA), and Pearson correlation and regression analysis. To ensure the consistency of understanding, standardization of the procedure and presentation of the achievement of all research objectives, the outcomes were reported in the following manner: i) one-way ANOVA results, ii) correlation analysis results and iii) factor analysis and regression analysis results.

We examined the data distribution by investigating the Skewness and Kurtosis of each variable before conducting the regression analysis (Table 2). All values range from  $\pm 0.032$  to  $\pm 1.62$ . These are, obviously, lower than the  $\pm 2$  cutoff value (George & Mallery, 2010). This reflects our data set to be distributed normally.

Statistical tests were conducted to evaluate the survey constructs, e.g. reliability, validity, and correlation tests. The reliability test investigates how compatible individual components used in a construct are with their measurements (Nunnally & Bernstein, 1994). The validity test assesses the degree to which items are designed to load on the same construct (Carmines & Zeller, 1979). Reliability was measured using Cronbach's alpha reliability coefficient. The internal reliability test showed all the constructs to be in the acceptable range.

Factor analysis and the Cronbach's alpha test conduct to assess construct validity and reliability which constitutes a necessary procedure in management studies. Convincing evidence has been identified in the next stage to examine hypotheses for consideration of the variables of this study (Table 3).

We have developed two structural models to test our hypotheses, including the main effect model (first model) and the interaction model, and the interaction model (second model). (H1a to H1i) were tested and evaluated in the main effect model. Meanwhile, the interaction model hypothesis

**Table 2:** Statistics Skewness and Kurtosis Test

	Env. Issues	Eco. Issues	Social Issues	Non-Financial Performance	Transformational Leadership
Valid N	253	253	253	253	253
Missing	0	0	0	0	0
Skewness	0.011	-0.012	0.118	-0.610	-1.092
Std. Error of Skewness	0.153	0.153	0.153	0.153	0.153
Kurtosis	-1.633	-0.924	-1.852	1.646	0.747
Std. Error of Kurtosis	0.305	0.305	0.305	0.305	0.305



relating to the moderating effect has been tested in H2. Tables 8 and 9 provide an estimation of both models.

Eighteen measures (Q1–Q18) were selected to measure non-financial performance. There are significant correlations between the related measures that indicate several factors for the 18 measures, and the 18 measures reflect a wide range of factors. The findings of factor analysis for 18 non-financial performance items with the loading factor range between 0.491 and 0.953. According to the reliability test reports, all the Cronbach's alpha values are above 0.60, which indicates that all the measures are reliable. Bartlett's spherical test ( $p = 0.000$ ) was significant and the KMO sampling adequacy measurement value was 0.772. This implies a sufficient number of significant factor analysis inter-correlations.

Table 4 shows that the relationship between variables ranges between low to high correlation and the high values reflects the high relationship between the variables. Table 4 (Person correlation) shows that environmental, economic, and social issues correlate significantly with non-financial performance ( $p < 0.01$ ). Social aspects had a positive and significant relationship to the degree of non-financial (customer satisfaction) ( $r = 0.212$ ,  $p < 0.01$ ), indicating that social aspects are widely utilized in relation to the use of non-financial performance measures. This result seems to imply that the contractors believe highly that implementing social aspects will generate better non-

financial performance. Likewise, there was a weak and positive relationship ( $r = 0.216$ ,  $p < 0.01$ ,  $r = 0.222$ ,  $p < 0.01$ ) between environmental and economic aspects and the extent of financial performance. Therefore, companies with a high level of economic and environmental aspects experience better non-financial performance.

Concerning multicollinearity, the TOL values were between 0.944 and 0.994, and the VIF values ranged from 1.006 to 1.059 (Table 5). Thus, no occurrence was found for any multicollinearity problem between the independent variables. The values of TOL and VIF are within the appropriate range so that severe multi-linearity problems do not exist. Therefore, the results of the multicollinearity assumptions suggest the fitness of the data of the survey conducted in this study.

## 4.2. Regression Results and Discussion

The statistics relating to H1 revealed that  $R$  is (0.362) (Table 6).  $R$ -Square (0.131), which is the explained variance, is the square of the multiple  $R$  (0.362) (see Table 6). Thus, 13.1% of the variance ( $R$ -Square) in the dependent variable has been significantly explained by the independent variables, thereby indicating that the model fits at a significant level of the  $F$ -statistic ( $F = 12.531^{***}$ ).

The constant term of this model is positive and significant at ( $p$ -value  $< 0.05$ ). According to the coefficient table, the  $t$ -value for each independent variable (social and economic perspectives) is significant and positive at 0.05 level with the performance of construction companies. By contrast, the

**Table 3:** Reliability (Cronbach's Alpha) Coefficients for Variables

Variables	Cronbach's Alpha
Sustainable development practices	0.940
Environmental perspective	0.966
Economic perspective	0.975
Social perspective	0.958
Non-Financial Performance	0.895

**Table 5:** Collinearity Statistics Test

Model	Tolerance	VIF
Environmental perspective	0.944	1.059
Economic perspective	0.994	1.006
Social perspective	0.949	1.053

**Table 4:** Pearson Correlations Matrix

	1	2	3	4	5	6	7
Environmental Aspect (1)	1						
Economic Aspect (2)	0.078	1					
Social Aspect (3)	0.225**	0.008	1				
Transformational Leadership (4)	0.189**	0.124*	0.292**	1			
Customer Satisfaction (5)	0.126*	0.212**	0.199**	0.234**	1		
Reputation (6)	0.145*	0.128*	0.215**	0.319**	0.427**	1	
Employee Commitment (7)	0.143*	0.164**	0.247**	0.278**	0.437**	0.385**	1

Note: \*Correlation is significant at the 0.05 level; \*\*Correlation is significant at the 0.01 level.

$t$  value of environmental perspective = 1.65 is not significant at ( $p$ -value < 0.05) level, implying no significant relationship between environmental perspective and the non-financial performance of construction companies (Table 7).

Table 8 shows the finding of the interaction model. As shown in the table, the interaction latent variable “Environmental Aspects \* TL” has a significant path coefficient ( $\beta = -0.109$ , at  $P < 0.05$ ), indicating that transformational leadership has no moderating effect on the role of environmental issues. Accordingly, the researcher decides to reject the related hypothesis (H1d). This would show that environmental issue is a more efficient practice when transformational leadership is prevailing behavior in construction companies. Figure 2 shows the relationship between sustainable development practices and non-financial performance under high and low levels of transformational

leadership. This result implies that, with respect to average levels of transformational leadership and SDP sustainable development practices, sustainable development practices coupled with transformational leadership exert joint positive effects on non-financial performance. That meant that SDP was less predictive of non-financial performance as transformational leadership became stronger. The results also show that the interaction latent variable “Economical Aspects \* TL” and “Social Aspects \* TL” has an insignificant effect ( $\beta = -0.028$ ), ( $\beta = -0.035$ ) at  $P > 0.05$ , respectively indicating that transformational leadership has no moderation effect on the role of economic issues and social issues. Thus, the researchers reject the related hypotheses (H1a, H1g). In view of the above findings, the claim that transformational leadership has no moderating effect was supported.

In summary, the results showed that all sustainable development practices and transformational leadership have no direct effects on the non-financial performance of the construction sector in Jordan. Environmental, social and economic aspects have no effect on the non-financial performance of the construction sector in Jordan. Additionally, the result shows that transformational leadership interacts insignificantly with environmental, social, and economic aspects and thus the claim that transformational leadership has a moderating effect was not supported.

However, the results indicate that all components of the environmental aspect (i.e. environmental impact, environmental efficiency, and volunteer actions) were related positively to non-financial performance (i.e. customer satisfaction, company reputation, and commitment of employees). These findings support the study conducted by Agrawal (2012) who suggested that non-financial performance measurement (NFPM) provides a closer

**Table 6:** Multiple Regression Results for Hypothesis (H1)

Independent Variables	Standardized Coefficients	$t$ -value	Sig.
	Beta		
Environmental issues	0.100	1.650*	0.100
Economic issues	0.209	3.525***	0.001
Social Issues	0.249	4.111***	0.000
$F$ -statistics	12.531		
$R$	0.362		
$R^2$	0.131		
Adjusted $R$ Square	0.121		

\*, \*\*, \*\*\*:  $p$ -value < 0.10, 0.05, 0.01.

**Table 7:** Result of Regression Analysis for the Main Model

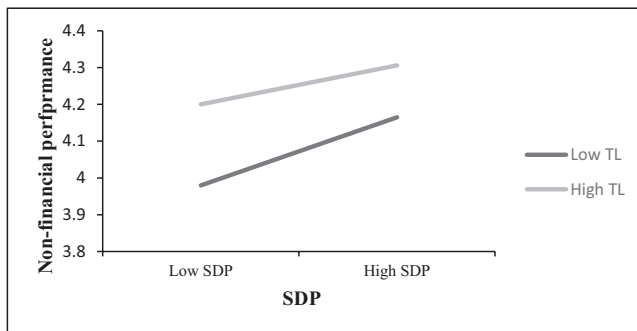
Independent Variables	Hypothesis	Standardized Coefficients	$t$ -value	$F$	$R^2$	Adj. $R^2$
		Beta				
Social aspects	H1a	0.280	4.621***	21.354***	0.078	0.075
	H1b	0.211	3.422***	11.710***	0.045	0.041
	H1c	0.181	2.922***	8.540***	0.033	0.029
Environmental aspects	H1d	0.209	3.380***	11.426***	0.044	0.040
	H1e	0.177	2.852***	8.133***	0.031	0.028
	H1f	0.182	2.927***	8.567***	0.033	0.029
Economic aspects	H1g	0.142	2.267**	5.140**	0.020	0.016
	H1h	0.242	3.957***	15.657***	0.059	0.055
	H1i	0.188	3.028***	9.168***	0.035	0.031

\*, \*\*, \*\*\*:  $p$ -value > 0.10, 0.05, 0.01

**Table 8:** Regression Analysis of Interaction Model

Variables	Model 1		Model 2		Model 3	
	Coeff.	t	Coeff.	t	Coeff.	t
<b>SDP</b>						
Environmental aspects	0.110	1.825				
Economical aspects			0.097	3.006		
Social aspects					0.106	3.121
<b>Moderator Variable</b>						
Transformational leadership	0.201	4.932	0.211	5.388	0.187	4.548
<b>Interactive Between Variables</b>						
Environmental aspects * TL	−0.109	−1.397				
Economical aspects * TL			−0.028	−0.706		
Social aspects * TL					−0.035	−0.741
R <sup>2</sup>	0.139		0.153		0.393	
R <sup>2</sup> change ( $\Delta R^2$ )	0.007		0.002		0.002	
Sig. F change	1.951		0.498		0.548	

Model 3.1: Environmental issues; Model 3.2: Economic issues; Model 3.3: Social Issues.

**Figure 2:** Interaction Term Between SDP and TL on Non-Financial Performance

relationship to the corporate long-term strategies. NFPM also creates the reputation of a company. In addition, non-financial aspects are strongly related to business activities. Accordingly, the coefficient result found that the *t*-value for each independent variable (social and economic perspectives) is significant at 0.05 level; this would indicate a positive relationship between sustainable development practices and construction companies' non-financial performance. In short, the multiple regression analysis showed that the hypotheses of the study are strong and significant. The independent variables may therefore explain significantly the variance in the dependent variable (non-financial performance).

Table 8 demonstrates TL's negative impact on non-financial performance. Firm with lower the level of transformational leadership has a lower non-financial performance. The regression analysis in Table 8 demonstrates insignificant ( $\Delta R^2 = 0.007$ ,  $\Delta F = 1.951$ ,  $(\beta = -0.109, t = -1.397, p < 0.05)$ ) moderation effect of transformational leadership on environmental issues; insignificant ( $\Delta R^2 = 0.002$ ,  $\Delta F = 0.498$ ,  $(\beta = -0.028, t = -0.706, p < 0.05)$ ) moderation effect of transformational leadership on economic issues; and insignificant ( $\Delta R^2 = 0.002$ ,  $\Delta F = 0.548$ ,  $(\beta = -0.035, t = -0.741, p < 0.05)$ ) moderation effect of transformational leadership on social issues.

Figure 2 shows that the effect of TL on environmental, economic, and social issues and non-financial performance of construction companies are not significant. Therefore, TL decreases sustainable development practices' negative impact on non-financial performance. H2 is not supported by these findings.

The results demonstrate that contractors who worked in a low transformational leadership environment tend to be less engaged with their firm performance as compared to those who worked in a high transformational leadership environment, even when both had high sustainable development practices. However, the gap in non-financial performance in a low and high transformational leadership environment is smaller between those who had high sustainable development practices as compared to those with low sustainable development practices.



## 5. Conclusion

The major contribution of this work is the ability to highlight and integrate the concept of sustainability into the Jordanian construction firms' performance. This study also provides statistical and empirical evidence that sustainable development practices are relevant, valid, and applicable in the construction industry. This study applies stakeholder theory to develop the construction companies' performance model. The stakeholder frame is the most relevant environment and cultural context to improve the impact on the performance of construction companies. This study supports previous studies in the literature available that the implementation of sustainable development practices improves Jordanian construction firms' performance. Also, it proves that environmental, economic, and social aspects are the most prominent features in an organization in ensuring its success. This work proves and promotes current knowledge of organizational performance. The findings revealed that the measures of sustainable performance of an organization are not based on the financial performance aspects only. The measures of sustainable performance of an organization are based on other measurements of business success such as contribution to society, safety awareness, and environmental awareness, as well. This study explored factors that could influence the non-financial performance of contractors. This study emphasizes the consequences of exploring the relationship between sustainable development practices and non-financial performing factors. Also, it investigates the combined effect of the transformational leadership style on the relationship between sustainable development practices and non-financial performing factors the results indicate that environmental, economic, and social issues were positively related to non-financial performance. An important contribution of this study involves the moderating role of transformational leadership. The findings indicate that TL exerted non-significant moderation on sustainable development practices and non-financial performance relationships.

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