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Effects of CSR Activities on Business Performance of Logistics Firms

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Abstract

Purpose As consumer awareness grows, the importance of CSR becomes even more important for long-term growth. In response to this current trend, the purpose of this study is to analyze the effect of CSR activities on business performance for logistics companies. **Research design, data, and methodology** - Between CSR activities and growth, there was a generally positive(+) relationships between activities such as donation and volunteerism and the growth of the enterprise. In terms of the relationship between environmental factors and growth, negative results were expressed. In case of profitability, improved welfare for workers has had a positive impact on corporate profitability. **Results** - With respect to stability, a high proportion of equity capital is not considered to be more active in SCR activities. Significant negative results were given between the minimum factors for entry, transportation, and noise generation factors and the ratio of liabilities, which are representative friction factors in the community. **Conclusions** - With respect to stability, a high proportion of equity capital is not considered to be more active in SCR activities. Significant negative results were given between the minimum factors for entry, transportation, and noise generation factors and the ratio of liabilities, which are representative friction factors in the community.

Keywords: Logistics Firms, CSR Activities, business Performance, Logistics performance

JEL Classification Code: F10, F18, F42, G30.

1. Introduction

Since the global market has been integrated, corporates around the world have faced endless competition, and according to this trend, corporates need various strategies to survive. Corporates have determined that securing competitive advantage is their primary purpose. In the past, the purpose of corporates was to maximize their profits as a provider of services, thereby maximizing shareholder wealth through their corporates.

Increasing competition among corporates around the world has led to serious social and environmental pollution

problems that have only maximized their profits. These problems caused negative social effects and further extended to global problems.

In the end, global social problems and the severity of environmental pollution ultimately negatively affected human survival. The increasing severity of these issues around the world has highlighted the importance of Corporate Social Responsibility (CSR).

In the past, corporates' CSR activities were thought as donations. Recently, however, corporates are making various contributions to society. The activities that corporates contribute to society are costly to companies. Therefore, corporates in the past have been very passive in CSR activities because CSR activities are opposed to corporates' profit maximization policy. However, in recent years, consumers have become aware of the importance of CSR activities, and their consumption patterns have become the criteria for choosing the type of consumption according to the degree of CSR activity of corporates. As a result, corporates are in an environment that requires them to be more active in CSR activities.

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The concept of CSR has been considered in the past as a superficial concept such as donation. However, in 2010, the International Standardization Organization (ISO), identified seven elements of corporate social responsibility (environment, human rights, labor, corporate governance, fair business practices, consumer issues, and community activities) as clear standard through ISO 26000.

As the concept of CSR has been explicitly presented, corporates have taken on the various responsibilities that society demands from their existing their donations or charitable activities for their corporate image.

In the past, corporates focused on maximizing their profits, so they considered the cost of CSR activities in their management policy. Therefore, corporates' attitude toward CSR activities was passive. However, in recent years, since consumers and society place a high meaning on corporate CSR activities, corporates that are passive in CSR activities cannot develop their corporates in the long term. As a result, all the companies have faced a situation in which they are forced to engage in CSR activities.

Environmental pollution is the first area that emerged in connection with the corporates' representative CSR activities. Environmental pollution is related to the emission of pollutants by corporates around the world has caused problems such as the destruction of the ozone layer and the expansion of greenhouse gases. As a result, various environmental problems such as abnormal climate phenomenon have a negative effect on human life. Governments around the world are enforcing compulsory provisions to reduce greenhouse gas use. And in this regard, the governments of each country pointed to the logistics industry, which is the industry that emits representative pollutants.

Since the logistics industry is highly likely to emit large amounts of carbon dioxide in the process of logistics storage, unloading, packaging and transportation, countries are tightening regulations on the logistics industry. Korea is also fostering environmentally friendly logistics corporates that can protect the environment through green logistics certification projects, and is implementing various policies at the government level.

Many corporates, as well as the logistics industry, are embracing their various social needs as social enterprises, out of the way of pursuing profits in the past. Therefore, they are making various efforts to change into social enterprises as well as environmental pollution. Some corporates are negatively aware of the increased spending to transform into social enterprises and carry out very passive management policies in relation to costly CSR activities. However, global expansion of CSR causes domestic logistics corporates to concern with it a lot.

The purpose of this study is to examine how the CSR activities of major logistics corporates in Korea affect their

management performance through empirical analysis. The results of the analysis will provide practical guidelines for corporates that are still hesitant to conduct CSR activities.

2. CSR Concept and Preceding Research

2.1. CSR Activity

Since corporate social responsibility activities have been highly cost-focused in the past, social responsibility activities of a corporate have been perceived as unreasonable in the corporate value of shareholder profit maximization.

However, as consumers' interest in a corporate's CSR activities and social needs have increased, companies have been unable to consider only their cost aspects. Rather, the company's CSR activities have a significant effect on the consumer's product choices and have a positive effect on the company's management performance.

Furthermore, consumers' wider awareness of CSR activities directly affects the company's image and is considered a key driver of long-term survival.

However, in the case of the logistics industry, which emits large amounts of greenhouse gas and carbon dioxide, consumer awareness has become widespread, but little research has been conducted on how the CSR activities of logistics companies affect corporate management performance.

In the past, corporates focused on maximizing their profits, so they considered the cost of CSR activities in their management policy. Therefore, corporates' attitude toward CSR activities was passive. However, in recent years, since consumers and society place a high meaning on corporate CSR activities, companies can no longer consider the cost factors as in the past. If a company has a passive attitude to environmental pollution or social problems, consumers immediately fix their negative image on the company. This situation not only hurts the image of a company, but also damages the credibility of the products it produces. According to Nielsen's (2015) survey on the extent to which consumers raise their awareness of CSR, the questionnaire asks, "If a company engages in CSR activities, can consumers spend additional costs when they buy their products?" In response to the question, 66% of the survey respondents said they would spend additional costs. This result shows an increase of more than 10% in 2014 from 55% in a year. These survey results indicate that the level of CSR awareness among consumers is gradually increasing.

2.2. CSR Activity and Management Performance

As consumer's perception of CSR activities is a factor that can directly affect corporate management performance, various previous studies have been conducted.

Jin and Zhang (2018), Herbig and Milewicz (1995) put the company's image first as a priority factor in increasing its competitiveness. Consumers' good image of the company had a positive effect on their products and services, and as a result, on their sales.

According to Clarkson's (1995), Lee and Tan (2018), Kim and Lee (2012) study, the company's CSR activities have a significant impact on the company's image because the company's CSR activities can improve customer satisfaction and lead to positive responses from stakeholders.

In the past, corporate CSR activities were determined by the CEO's CSR awareness. However, the recent CSR activities have expanded the scope of CSR to various fields such as win-win growth, environment, labor-management relations, and win-win growth as consumer awareness increases.

Behind these changes in CSR activities, many companies still have perceived CSR activities in terms of cost. However, many studies showed that CSR is becoming more important as a factor that companies must consider in order to sustain their growth. According to a study by Dowling (2001), firms can directly enhance their competitiveness through CSR activities, and Winters (1986) also found that corporate CSR activities are strongly recognized by society members, thus, CSR activities have a positive effect on corporate image.

In the past, the costs required for CSR activities were judged not only to cause various expenses, but also to have a negative impact on corporate value, regardless of the company's profit generation. Contrary to this view, the positive view on CSR activities is that CSR activities have a positive effect on the corporate image and attract more consumers, thus affecting the company's financial performance in the long run.

Hahn and Kim (2016), Kim and Kim (2019) Ellen, Mohr, and Webb (2000) 's study of these positive factors suggests that CSR activities have customers to have a positive perception and attitude toward the company in the long run.

2.3. CSR Activity and Financial Performance

In addition to the considerations of consumer perceptions, researches have been conducted that CSR

activities directly affect a company's financial performance. Waddock and Graves (1997) analyzed that corporate CSR activities directly affect corporate financial performance for the following year. Preston and O'bannon (1997) found the relationship between CSR activities and financial performance in large US companies. According to the results of their study, the CSR activity of a company has a positive effect on its return on equity and return on assets. Orlitzky, Schmidt, and Rynes (2003) and Luo and Bhattacharya (2006) also argued that CSR activities have a positive effect on corporate profit maximization and corporate value.

McGuire, Sundgren, and Schneeweis (1988) found that corporate CSR activities raise the company's reputation, and this result not only has a positive effect on the ROA, but also on the company's debt ratio. According to a study by David, Kline, and Dai (2006), a company's spending on sustained CSR activities not only positively influences consumers' company image formation, but also affects consumers' product choices, resulting in higher corporate value.

Unlike studies that claim positive results of CSR activities, Margolis and Walsh (2003) argued that there is no result that CSR activities have a positive effect on the company, and Nelling and Webb (2009) actually believed that CSR activities did not directly affect the firm's financial performance, but rather expenditures related to CSR activities in the long term negatively impact the firm's financial performance.

Ullmann's (1985) study also found that CSR activities had a greater negative impact on costs than maximizing corporate value, and Barnea and Rubin (2010) found that CSR activities do not have a positive impact on companies as a cause a decline.

As mentioned above, in the past, studies related to CSR activities were conducted to analyze the positive effects, but over time, some studies have suggested negative results.

3. Research Data and Methodology

3.1. Sample Composition

With the rapid ozone depletion and global warming growing, concerns about global environmental pollution have led to active exploration of various measures to reduce environmental pollution between countries. Along with various efforts between countries, the Korean government also have sought various ways to reduce greenhouse gases. In particular, the Korean government has supported ways to reduce pollutants and carbon dioxide emitted by the logistics industry, which accounts for a large part of environmental pollution.

In this regard, the Korean government has provided various support to promote green logistics. In addition, companies in the logistics industry are looking for active alternatives, as the emission of environmental pollutants, as opposed to the current global logistics market, is a factor that reduces their competitiveness in the long run.

Freight vehicles emit large amounts of carbon dioxide and fine dust that cause environmental pollution, increasing not only environmental aspects but also negative perceptions of consumers. Consumers' negative perceptions of these environmental pollutants are found in the case of friction between the entry of large distribution centers and residents.

Recently, logistics companies are promoting various CSR activities to reduce consumers' negative perceptions about the logistics industry. With regard to the various pollutions, noises, and environmental degradation that occur during product packaging, unloading, transportation, and storage related to logistics processes, companies are seeking various ways for social responsibility rather than merely profit.

There are limitations to confirm the clear results of whether the various CSR activities of logistics companies have positively affected the corporate image and consumers' loyalty. Logistics firms, therefore, continue to question whether they have a positive impact on their business beyond the costs of CSR activities. Given this uncertainty and lack of confidence in the long-term CSR activities of logistics companies, this study analyzes how CSR activities of Korean logistics companies actually affect their management performance, and indicate the need for them.

Therefore, this study examines how the CSR activities of the domestic logistics industry affect the actual corporate management performance. As of 2014, this study conducted a questionnaire survey on the factors influencing the management performance of CSR activities by current employees of logistics companies and personnel in the logistics departments of general companies and selected 258 questionnaires for analysis.

3.2. Data and Methodology

The questionnaire items related to CSR activities of logistics companies are based on the existing research (Kim & Jeon, 2016), which includes environmental factors (EV), human rights factors (HR), community contributions (LC), charity activities (PL), and logistics. The questionnaire was prepared by organizing the results.

The dependent variables used as variables of management performance were measured as follows.

Growth Indicators: Total Asset Growth (Δ Tasset), Operating Profit Growth (Δ Operating), Sales Growth

(Δ Sales), Net Profit Growth (Δ Nprofit)

Profitability Indicators: ROE, ROI, Sales Profit Margin (Rnpro), Sales Profit Margin (Roper)

Stability Indicators: Equity Capital Ratio (BIS), Debt Ratio (Rdebt)

Efficiency indicators: Turnover of total liabilities and net worth (Tlw), turn-over of net worth (Tnw)

This study used the following multiple regression equations to identify how the CSR activities of logistics companies affect management performance.

$$\text{Dependent}_t = \alpha + \beta_1 EV_t + \beta_2 HR_t + \beta_3 LC_t + \beta_4 PL_t + \beta_5 LP_t + \varepsilon \quad (1)$$

In addition, this study tracked and analyzed the management performance between one year ago and three years later ($t + 3$) based on the date the survey was conducted in order to analyze the factors that influence the sustainability performance after the survey.

4. Interpretation of the Empirical Analysis Results

4.1. CSR and growth potential of logistics companies

According to the results of analyzing the relationship between CSR activities of domestic logistics companies and factors affecting the growth potential of these companies, CSR activities showed limitations in significant results between environmental, human rights, community contribution activities and management performance.

However, there is a significant positive result between corporate activities such as charitable donations and volunteer activities in the community and the indicators of growth of the company.

Regarding the effectiveness of actual CSR activities, activities such as community donation can be used to recognize the company's contribution to the community rather than the areas of environment and human rights where the consumers of the community cannot directly recognize. Therefore, there is a significant causal relationship with growth in the company's contribution to the community.

As confirmed by Herbig and Milewicz's (1995) study, the growth of logistics companies is positive through the results of the paper that donations and service of logistics companies have a positive effect on the company's image and further lead to consumer purchases.

The relationship between partial environmental factors and firm growth could not yield significant results.

However, some negative results indicate that the additional cost increase associated with environmental CSR activities (recycling of packaging materials, reducing waste, and reducing packaging materials) has a substantial negative impact on corporate performance.

Table 1: CSR factors and business performance (growth)

	Dependent = $\alpha + \beta_1EV + \beta_2HR + \beta_3LC + \beta_4PL + \beta_5LP + \epsilon$							F value	Adj R ²
		α	β_1	β_2	β_3	β_4	β_5		
ΔTasset	t - 1	-17.88 (-1.09)	0.769 (0.24)	-4.472 (-1.16)	3.04 (0.75)	5.332 (1.57)	1.547 (0.49)	0.92	0.037
	t	-5.972 (-0.3)	-4.707 (-1.19)	4.636 (1)	-4.67 (-0.9)	7.089* (1.72)	2.037 (0.53)	1.09	0.043
	t + 1	5.668 (0.72)	-2.267 (-1.45)	2.613 (1.45)	0.519 (0.27)	0.52 (0.32)	-1.1506 (-0.76)	0.84	0.034
	t + 2	25.24 (0.64)	-13.783* (-1.76)	-3.978 (-0.44)	-5.17 (-0.5)	18.38** (2.25)	4.022 (0.53)	1.43	0.056
	t + 3	2.763 (0.34)	1.641 (1.01)	-1.65 (-0.87)	-0.08 (-0.04)	0.125 (0.07)	0.345 (0.22)	0.3	0.012
ΔOperatng	t - 1	4.933 (0.13)	-10.499 (-1.44)	5.138 (0.6)	-6.536 (-0.72)	14.358** (1.88)	1.011 (0.14)	1.1	0.047
	t	5.116 (0.19)	-6.332 (-1.17)	6.933 (1.12)	-3.334 (-0.5)	7.554 (1.34)	-2.448 (-0.48)	0.91	0.038
	t + 1	-2.418 (-0.2)	0.218 (0.09)	-1.046 (-0.37)	4.996* (1.66)	0.193 (0.08)	-0.918 (-0.39)	0.67	0.027
	t + 2	24.788 (1.32)	-6.407* (-1.71)	-4.804 (-1.12)	-2.304 (0.05)	9.574** (2.46)	1.622 (0.45)	1.83	0.075
	t + 3	28.708 (1.56)	0.774 (0.21)	1.882 (0.45)	3.057 (0.68)	-6.9404* (-1.81)	-3.402 (-0.96)	0.74	0.031
ΔSals	t - 1	4.845 (0.1)	-8.792 (-0.94)	-8.036 (-0.72)	-4.994 (-0.43)	21.6** (2.2)	4.424 (0.48)	1.06	0.043
	t	-33.63 (-1.61)	0.583 (0.14)	12.28** (2.51)	-7.669 (-1.49)	-3.098 (-0.7)	8.955** (2.19)	3.08**	0.116
	t + 1	0.724 (0.09)	-2.6403 (-1.56)	4.353** (2.2)	-1.407 (-0.68)	0.131 (0.07)	-0.514 (-0.31)	1.23	0.05
	t + 2	5.412 (0.57)	-1.627 (-0.86)	-0.576 (-0.26)	-2.146 (-0.92)	4.871** (2.45)	-0.699 (-0.38)	1.46	0.058
	t + 3	7.563 (0.89)	0.432 (0.25)	-2.731 (-1.37)	1.624 (0.77)	1.883 (1.05)	-0.642 (-0.39)	0.7	0.029
ΔNprof	t - 1	-21.86 (-0.22)	-23.966 (-1.06)	25.531 (1.01)	-21.746 (-0.82)	14.596 (0.7)	18.789 (0.88)	0.64	0.039
	t	79.58 (0.3)	59.32 (1.06)	1.123 (0.02)	-41.18 (-0.61)	-32.46 (-0.58)	16.257 (0.28)	0.34	0.019
	t + 1	537.6 (0.54)	144.83 (0.71)	-438.7* (-1.82)	138.3 (0.55)	29.81 (0.15)	55.75 (0.26)	0.69	0.04
	t + 2	55.19 (0.92)	-26.85** (-2.07)	14.834 (1.02)	-22.549 (-1.45)	14.021 (1.15)	13.011 (1.01)	1.65	0.104
	t + 3	-34.05 (-0.53)	24.229* (1.85)	-21.392 (-1.55)	-6.252 (-0.41)	-2.687 (-0.22)	18.09 (1.46)	1.28	0.069

* t=Based on the year of 2014

4.2. CSR and profitability of logistics companies

Profitability, the most important factor for the long-term growth of a company, was characterized by the positive impact of the company's donation or volunteer activities,

similar to the growth of the company.

Among the CSR activities related to profitability, improved treatment of workers in companies related to human rights had a positive effect on profitability. When a logistics company tried to improve the quality of employment for the treatment of transporters, employment

guarantees, minimum wages, etc., the workers of the company had a positive effect on the improvement of logistics services as well as to increase royalties to the company. Therefore, these results shows a positive effect on the profitability of the logistics company.

Harter, Schmidt, and Hayes (2002) and Richman (2006) studied the job competencies of workers and found that their high level of job enthusiasm showed high job performance. In addition, they suggested that the company's

CSR activities can be a factor in raising the job enthusiasm of the workers.

Based on the analysis of these existing studies, CSR activities related to the improvement of welfare and treatment of the members of the organization can actually lead to the enthusiasm of the workers, which in turn can have a positive effect on management performance.

Table 2: CSR factors and business performance (profitability)

	Dependent = $\alpha + \beta_1EV + \beta_2HR + \beta_3LC + \beta_4PL + \beta_5LP + \epsilon$							F value	Adj R ²
		α	β_1	β_2	β_3	β_4	β_5		
ROE	t - 1	2.815 (0.13)	-5.852 (-1.37)	2.172 (0.44)	-0.252 (-0.05)	7.64* (1.71)	-1.062 (-0.26)	0.96	0.04
	t	1.968 (0.13)	-2.781 (-0.89)	3.543 (0.99)	2.713 (0.71)	2.379 (0.73)	-3.172 (-1.05)	0.86	0.037
	t + 1	-14.32 (-0.87)	-0.009 (-0.001)	-1.182 (-0.31)	6.601* (1.64)	1.04 (0.31)	0.261 (0.08)	0.81	0.033
	t + 2	5.204 (0.65)	-1.217 (-0.76)	-0.052 (-0.03)	-2.393 (-1.22)	3.512** (2.12)	1.672 (1.09)	1.12	0.047
	t + 3	6.232 (0.63)	1.505 (0.77)	-2.056 (-0.91)	-0.736 (-0.31)	0.921 (0.45)	1.403 (0.74)	0.33	0.014
ROI	t - 1	-266.6 (-0.51)	-59.29 (-0.57)	62.83 (0.52)	116.76 (0.91)	91.97 (0.85)	-35.83 (-0.35)	0.7	0.028
	t	-115.4 (-0.15)	-75.53 (-0.5)	189.26 (1.07)	160.21 (0.86)	61.472 (0.39)	-127.9 (-0.89)	0.79	0.032
	t + 1	-279.4 (-0.78)	-13.87 (-0.19)	64.22 (0.77)	139.83 (1.58)	30.755 (0.41)	-46.23 (-0.67)	1.27	0.05
	t + 2	-197.6 (-0.36)	-58.67 (-0.53)	100.71 (0.78)	108.4 (0.8)	76.136 (0.66)	-46.901 (-0.44)	0.67	0.027
	t + 3	-26.79 (-0.03)	-88.52 (-0.53)	190.4 (0.98)	166.8 (0.81)	61.57 (0.36)	-128.07 (-0.79)	0.67	0.027
Rnpio	t - 1	-22.408 (-1.5)	1.253 (0.42)	-1.456 (-0.42)	1.276 (0.35)	1.255 (0.41)	3.085 (1.07)	0.45	0.018
	t	3.73 (0.73)	-0.1906 (-0.19)	2.117* (1.79)	-0.776 (-0.62)	-0.224 (-0.21)	-0.916 (-0.93)	0.75	0.03
	t + 1	-1.998 (-0.79)	0.318 (0.64)	1.38** (2.36)	0.457 (0.74)	-0.707 (-1.35)	-0.248 (-0.51)	2.05*	0.079
	t + 2	-5.989 (-0.99)	0.131 (0.11)	0.369 (0.26)	-0.406 (-0.27)	0.609 (0.49)	1.301 (1.12)	0.4	0.016
	t + 3	6.281* (1.67)	-0.011 (-0.02)	0.761 (0.87)	-0.295 (-0.32)	-0.536 (-0.69)	-0.574 (-0.79)	0.31	0.012
Roper	t - 1	0.017 (0.01)	-0.263 (-0.56)	1.019* (1.86)	0.072 (0.12)	0.139 (0.29)	-0.112 (-0.25)	1.02	0.041
	t	-0.274 (-0.13)	-0.071 (-0.17)	1.35*** (2.75)	-0.07 (-0.14)	-0.033 (-0.08)	-0.055 (-0.13)	2*	0.077
	t + 1	-2.838 (-1.12)	0.36 (0.72)	1.159** (2)	0.113 (0.18)	-0.226 (-0.43)	0.289 (0.59)	1.86*	0.072
	t + 2	-1.167 (-0.43)	0.048 (0.09)	0.694 (1.1)	-0.5002 (-0.75)	0.488 (0.87)	0.446 (0.85)	0.82	0.033
	t + 3	2.119 (0.87)	0.057 (0.12)	0.427 (0.76)	-0.772 (-1.29)	0.495 (0.98)	0.1501 (0.32)	0.55	0.022

4.3. CSR and stability of logistics companies

Stability, a representative management result for the long-term growth of a company, showed a significant negative result between the company's volunteering and donation to the community and the ratio of equity capital.

Equity capital ratio is a representative index indicating the stability of a company. If the share of equity capital is high, it is considered as a representative indicator of soundness because it is highly likely that a company will be able to cope with the risk of financial mismatch.

In general, if a company has a large amount of extra funds, it is expected that the company will be more active in CSR activities, but the results of this study showed the opposite.

Inferred from these results, it is believed that company's volunteering and donations to the regions did not directly reduce the company's equity ratio. The high ratio of corporate capital is not always linked to active CSR activities.

Table 3: CSR factors and business performance (stability)

	Dependent = $\alpha + \beta_1EV + \beta_2HR + \beta_3LC + \beta_4PL + \beta_5LP + \epsilon$							F value	Adj R ²
		α	β_1	β_2	β_3	β_4	β_5		
BB	t - 1	42.71*** (3.64)	0.45 (0.19)	3.044 (1.13)	-0.797 (-0.28)	-2.583 (-1.06)	0.296 (0.13)	0.46	0.02
	t	36.03*** (2.98)	1.542 (0.64)	2.187 (0.78)	0.791 (0.27)	-2.762 (-1.1)	0.125 (0.03)	0.47	0.019
	t + 1	32.58*** (2.92)	2.603 (1.18)	0.929 (0.36)	2.36 (0.86)	-3.208 (-1.39)	0.385 (0.18)	0.91	0.036
	t + 2	39.87*** (3.83)	2.608 (1.25)	2.331 (0.98)	1.828 (0.72)	-4.54** (-2.09)	-0.875 (-0.44)	1.31	0.055
	t + 3	39.31*** (3.24)	2.236 (0.99)	3.024 (1.08)	3.586 (1.21)	-6.14** (-2.44)	-0.901 (-0.39)	1.66	0.065
Rdebt	t - 1	188.47 (1.65)	8.711 (0.38)	-30.962 (-1.18)	-33.521 (-1.2)	31.439 (1.32)	18.307 (0.83)	0.84	0.036
	t	316.5 (1.4)	19.26 (0.43)	-47.34 (-0.9)	-95.61* (-1.72)	44.809 (0.95)	48.012 (1.1)	1	0.0405
	t + 1	362.5 (1.17)	25.95 (0.42)	-55.64 (-0.77)	-136.5* (-1.82)	52.8 (0.82)	72.97 (1.22)	1.03	0.041
	t + 2	137.49 (0.66)	14.896 (0.36)	-64.64 (-1.35)	-104** (-2.04)	72.13* (1.65)	90.655** (2.25)	1.97*	0.08
	t + 3	345.2 (1.33)	-31 (-0.6)	-27.304 (-0.45)	-123** (-1.93)	94.989* (1.76)	53.85 (1.07)	1.31	0.052

Representative friction factors between logistics companies and local communities are the entry of large vehicles, minimization of transportation and noise generation. These factors showed negative results in relation to the corporate debt ratio.

Decreased debt ratios are generally a positive sign of corporate stability and indicate that corporate performance improvement. In this situation, many efforts by logistics companies to reduce the friction factor with the local community will have a long-term positive effect on their business performance.

4.4. CSR and efficiency of logistics companies

In this study, some significant results were obtained by examining the relationship between total capital turnover, capital turnover, and management performance, which are representative indicators of how efficiently the company

owns capital.

In this study, the relationship between CSR activities and total capital turnover of logistics companies showed a negative result between the increase in welfare for employees and total turnover. In relation to these results, the increase in welfare expenditures for workers negatively affects the company's funding aspects. Thus, these results showed a negative result between the turnover of equity and the welfare expenditure of workers.

The company's efforts to minimize transport-related pollutants and noise in the region, which is a friction factor in the community, showed a negative result in relation to equity turnover.

Based on these results, it was shown that CSR activities of logistics companies have a negative impact on the company's financial efficiency. In order to increase capital turnover, corporate activities must be continuously linked to sales growth, but CSR activities are not directly related

to sales growth in the short term. Therefore, CSR activity showed negative results in terms of capital turnover.

Table 4: CSR factors and business performance (Efficiency)

	Dependent = $\alpha + \beta_1EV + \beta_2HR + \beta_3LC + \beta_4PL + \beta_5LP + \epsilon$							F value	Adj R ²
		α	β_1	β_2	β_3	β_4	β_5		
T_w	t - 1	0.796 (1.08)	0.0137 (0.09)	-0.339** (-1.98)	0.231 (1.28)	0.243 (1.58)	0.167 (1.17)	1.6	0.063
	t	0.785 (1.17)	0.0602 (0.45)	-0.32** (-2.05)	0.192 (1.17)	0.172 (1.24)	0.2006 (1.55)	1.64	0.064
	t + 1	0.937 (1.46)	0.02 (0.16)	-0.305** (-2.05)	0.208 (1.32)	0.144 (1.06)	0.1702 (1.38)	1.5	0.059
	t + 2	0.766 (1.22)	0.1006 (0.81)	-0.293** (-2.02)	0.171 (1.11)	0.118 (0.91)	0.157 (1.3)	1.42	0.056
	t + 3	0.918 (1.29)	0.117 (0.83)	-0.31* (-1.88)	0.159 (0.91)	0.131 (0.89)	0.134 (0.97)	1.1	0.044
T_{nw}	t - 1	2.708 (0.68)	0.089 (0.11)	-1.302 (-1.44)	-0.799 (-0.82)	1.81** (2.21)	1.0505 (1.38)	1.34	0.056
	t	1.556 (0.35)	0.979 (1.12)	-2.048** (-2.04)	-1.262 (-1.18)	1.518* (1.66)	1.847** (2.19)	2*	0.082
	t + 1	3.728 (0.57)	1.184 (0.91)	-2.593* (-1.7)	-2.63* (-1.65)	1.788 (1.31)	2.743** (2.16)	1.83*	0.071
	t + 2	0.078 (0.01)	1.962 (1.18)	-3.354* (-1.76)	-3.46* (-1.7)	2.083 (1.2)	3.986** (2.49)	2.16*	0.087
	t + 3	0.007 (0.001)	1.647 (1.2)	-2.942* (-1.87)	-2.82* (-1.68)	1.928 (1.35)	3.365** (2.55)	2.29*	0.092

5. Conclusions

As the consumer's awareness of CSR activities grows in the global market, the perspective of CSR activities that were previously recognized as cost factors is increasingly recognized as an essential responsibility for the company's long-term growth. As a result, more and more companies are promoting various CSR activities.

In particular, in the logistics industry with high greenhouse gas and carbon dioxide emissions, there is no many researches on how the CSR activities of logistics companies actually affect the management performance of the companies as these consumers' perceptions become more common.

Therefore, this study carried out a survey on the CSR activities of logistics companies and logistics personnel in general companies. Based on the results of the survey, this study analyzed how CSR activities affected the company's business performance. The effect of the logistics company's CSR activities in relation with the company's growth has shown a significant positive result between the community's charitable contributions and volunteer activities, and the company's growth. In this regard, activities such as community donations that could actually recognize a company's contribution to the community, rather than activities such as environmental or human

rights issues that local consumers do not feel directly, showed significant causality.

In the relationship between environmental factors and corporate growth, no significant results were found. However, the results were partly negative, and the increase in costs associated with environmental CSR activities, such as recycling packaging materials and reducing waste and packaging materials, has been shown to substantially negatively impact corporate performance.

Looking at the relationship between CSR activities and the profitability of logistics companies, CSR activities such as improving the treatment of workers in the company had a positive effect on the profitability of the company. Efforts to improve the quality of transporters treatment, employment guarantees, and minimum wages have substantially increased the loyalty of workers to the company, moreover, have a positive effect on the improvement of logistics services, affecting the profitability of the logistics company.

In the relationship between CSR activities and financial stability of logistics companies, the relationship between community volunteering, donations and equity ratios showed a significant negative result. In general, if the company has a lot of extra funds, it is expected that the company will be more active in CSR activities. However, the results of this study showed the opposite results. The

high percentage of the company's equity is not linked to active investment in CSR activities.

Representative friction factors in the community are the problems of minimizing the entry and transport of large vehicles and noise generation. The relationship between the friction factor and the debt ratio of the company showed a negative result. It is expected that this result will have a long-term positive effect on the management performance of a company that makes a lot of efforts to reduce the friction factor with the community.

This study examined the relationship between total capital turnover, equity turnover, and management performance, which are representative indicators related to the efficient capital management. As a result, a significant negative result was obtained between the increase in employee welfare and the total capital turnover. In relation to these results, it was found that logistics companies had a negative effect on the company's fund management when they increased welfare expenditures on workers. In addition, corporate capital turnover also showed negative results in relation to the welfare expenditure of workers.

The relationship between the company's efforts to minimize transport-related pollutants and noise in the region, which is a friction factor in the community, and the turnover of the capital showed negative results. Based on these results, it is expected that CSR activities of logistics companies that are not directly related to sales have a negative effect on the company's financial efficiency.

This study conducted a survey of logistics managers and workers in logistics companies. Based on the results and analysis of the questionnaire, the degree of CSR activity of the company was calculated and the effect of the result on the management performance of the company was analyzed. However, it is expected that the accuracy of the study can be improved further by conducting empirical analysis on the effect on management performance by using expenditure data related to CSR activities of logistics companies in future studies.

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