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Artículos

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El distintivo de Empresa Socialmente Responsable como elemento para la creación de valor económico de una empresa

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Resumen: Propósito: La presente investigación fue diseñada para determinar la posible relación entre la obtención del distintivo de Empresa Socialmente Responsable y la generación de valor económico para las empresas que lo obtienen. Diseño/metodología/enfoque: Se tomó una muestra de 32 empresas que cotizan en la Bolsa Mexicana de Valores, que tenían el distintivo de Empresa Socialmente Responsable. Se consideraron dos puntos focales de valoración: uno antes de obtener el distintivo y otro posterior. Para establecer el valor económico de las empresas, se utilizó el método de flujo de caja libre. Por ello, este estudio se considera bajo el enfoque de ingresos de los métodos de valoración de negocios. Finalmente, los valores obtenidos en ambos puntos focales se compararon para determinar el cambio en el valor generado atribuible al distintivo SRC. Resultados: Los resultados confirmaron que obtener el distintivo como Empresa Socialmente Responsable tiene un impacto en la generación de valor económico para las empresas que pertenecen a la muestra medida a través del Flujo de caja libre. Este impacto se determinó en un promedio de 6.26%, encontrándose que la distribución de resultados individuales se asemeja razonablemente a la distribución probabilística normal. Originalidad/valor: Este trabajo agrega valor a las líneas de investigación sobre la medición del valor de la responsabilidad social corporativa. No obstante, se diferencia de otros estudios debido al uso de la certificación CSR otorgada en México por CEMEFI como una variable de responsabilidad socia. Además, en el análisis se utiliza el método de flujo de caja libre, mismo que no se ha aplicado para investigaciones de este tipo en el pasado. Asimismo, este trabajo se suma a otros que concluyen que existe una relación positiva entre la responsabilidad social corporativa y la generación de beneficios económicos.

Palabras clave: Empresa socialmente responsable, valuación de empresas, flujo libre de caja, México, empresas cotizadas.

Abstract: Purpose: The present investigation was designed to determine the possible relationship between obtaining the Socially Responsible Company distinctive and the generaton of economic value by the obtaining companies. Design/methodology/approach: A sample of 32 companies listed on the Mexican Stock Exchange that were awarded the Socially Responsible Company distinctive was drown and two valuation focal points were considered: one before obtaining the distinctive and another subsequent to it. To establish the economic value of the companies, the free-cash-flow method was used. This study is considered, therefore, under the income approach of business valuation methods. Finally, the values obtained in both focal points

were compared to determine the change in generated value attributable to the SRC distinctive. Findings: The results confirmed that obtaining the distinctive as a Socially Responsible Company does have an impact on the generation of economic value for the companies belonging to the sample -measured through the free-cash-flow method. This impact was determined at an average 6.26%, reasonably resembling the distribution of individual results a normal probabilistic distribution. Originality/value: This work adds value to the research on corporate social responsibility value measurement. This research study differentiates from others in the area due to the use of the CSR certification granted in Mexico by CEMEFI, as a social responsibility variable. In addition, the free-cash-flow method was used in the analysis, which is a novelty as it had not been applied to investigations of this type before. Likewise, this research work adds to past research in as much as it concludes that there is a positive relationship between corporate social responsability and the generation of economic benefits.

Keywords: Socially Responsable Company, business valuation, free cash flow, Mexico, listed companies.

1. Introduction

For Professor James Austin of the Harvard Business School (Dinero, 2000), corporate social responsibility implies that "Companies start to think about how they can interact to generate added value and a social impact in the country or the community, evolving in the Corporate Social Responsibility (CSR) concept and migrate towards another type of relationship different from philanthropy ". For their part, Porto & Castromán (2006) point out that corporate social responsibility is the active and voluntary contribution of companies in social, economic and environmental improvement.

Having generally described the importance of corporate social responsibility today, it is important to consider that for such actions to be implemented in companies, it is essential for decision makers within them that these programs are passed on sooner or later in positive economic results; which, although they should not be considered as the only objective, are necessary for the survival of any organization in the long term. When carrying out a review of studies on the possible relationship between certification as a SRC and the improvement in economic benefits, very varied results were found in this regard.

According to these data, only 0.02% of the total number of companies in Mexico has the SRC distinctive, which reflects the lack of acceptance that the initiative has had despite the recognition it gives and the 19 years it has existed. In this way, the present investigation has considered the obtaining of said distinctive as the clearest element to determine if a company is socially responsible or not; also, given the high availability of financial information from large companies listed on the Mexican Stock Exchange, it has been determined to analyze selected information from companies that meet both requirements. That is, analyze the publicly available financial information of large companies listed on the Bolsa Mexicana de Valores (BMV) and also have the Empresa Socialmente Responsable (ESR) distinctive for the periods analyzed, which will allow to determine a possible relationship between both variables.

The main purpose of the research is to determine if the SRC distinctive generates value for the companies studied, for which the literature corresponding to the SRC, valuation methods applicable to companies, as well as the financial information of the companies analyzed, will be used. It is important to mention that although the analyzed data come from large listed companies in the Stock Exchange, the results obtained in the present study are intended to serve for the decision making of the owners of small and medium enterprises with respect to the possible economic benefits of obtaining the distinction as SRC, thus improving the conditions and relations of these companies with their various interest groups.

Due to everything presented above, the general objective of this research work is to determine the possible impact of obtaining the distinction of SRC in the generation of economic value for companies.

Finally, as the scope and limitations of the research it can be highlighted that the study is considered from the perspective of the valuation of companies, and seeks to measure the impact on the value of the companies analyzed from their obtaining the label as SRC. The population and sample considered include companies that are listed on the Mexican Stock Exchange and have the SRC distinctive for the determined valuation time points. The studies were carried out based on an exhaustive review of the corresponding literature, the audited financial statements of the companies examined, and the contribution of information provided by experts.

2. Literature review

Following are some of the most outstanding works recently made regarding the state of the art on the determination of possible correlations between corporate social responsibility and the creation of economic value.

3. Methodology

As described in the introduction of this research paper, the main objective is to identify the possible relationship that obtaining the SRC distinctive has in the generation of economic value for companies; for this purpose, it has been decided to use the valuation approach of income capitalization of companies, specifically the determination of value through the Free Cash Flow or FCF.

The foregoing is because said method, within the income approach, is the one that best fits the characteristics of the phenomenon under study in the present work. This is because determining the value of a company by estimating its cash-free flows can be achieved by using data widely available from companies, in addition to offering an objective and accurate result on the value of the organization based on their income and expenses through a specific period of time.

In addition to the previously mentioned, the choice of this methodology has been made based on the literature review, this allows to maximize the theoretical and practical contribution of the present study work. The specific methodology that has been applied is described in detail in the steps presented below.

1. Calculation of the statistically representative sample.

The criterion that has been proposed is to analyze selected financial information of those companies that fulfill the following three requirements:

1. Be listed on the Mexican Stock Exchange for the year 2017.
2. To have the SRC distinctive for the year 2017.
3. Exhibit audited and public financial information for the year 2017.

Based on these criteria, it was determined that only 32 companies comply with all of them, so it is considered that being such a small population, it is not pertinent to apply the corresponding formula for the determination of a representative sample. In this way, the total population will be used as the final sample to be analyzed, that is 32 companies.

2. Obtaining data for the analysis.

Using secondary information sources, an extensive search was carried out in order to find the financial data necessary to estimate the Free Cash Flow, which is shown in the two main Financial Statements, which are:

Within the Statement of Financial Position or Balance Sheet, the following values were obtained and / or estimated:

a) Fixed asset.
b) Working Capital.
c) Invested capital.

Within the Profit and Loss Statement or Income Statement, the following values were obtained and / or calculated:

1. Sales, costs and expenses.
2. Taxes, interest, amortization and depreciation.
3. Earnings before interest and after taxes.

Additionally, the Free Cash Flow methodology requires the use of the Capital Asset Valuation Model or CAPM to estimate the discount rate, so it was necessary to determine the data of:

3. Estimation of the value of the companies with the SRC distinctive for the year 2018 through the Free Cash Flow.

Once the selected financial data required by the chosen methodology is available, the respective calculations are carried out to determine the value of the companies under study through the Free Cash Flow. This process basically consists of using the historical information of certain accounts of the financial statements belonging to four years prior to the focal period from which the value is to be determined; the average of said data is then estimated and projected five years ahead of said focal period.

The last step is to determine the present value of the projected periods, including the corresponding residual value and with this, the company's value is obtained for the established focal period.

It is important to mention that the main contribution of this work consists in the elaboration of this process for two focal points, that is, the determination of the value of the companies through the Free Cash Flow for two different points in time. The year 2017 is considered because it is the most recent year for which the value of these companies with the SRC distinctive can be estimated because the availability of the data; the second focal year is considered as a prior year of reference before companies obtained the SRC distinctive or within a few years of having obtained it. In this way, the present study reviewed historical information from four years before for both focal periods and then proyected five years into the future, also for both points in time; all of the above was estimated for each of the 32 selected companies and with the final objective of comparing said values.

In order to show the methodology used, the calculation of the Free Cash Flow for one of the companies analyzed is detailed below. For reasons of eficiency, the estimates of the rest of the chosen companies will be omitted; reiterating that the estimates were the same for all of them.

The first step is to use as a basis the data corresponding to the Income Statement of previous years to determine the value of the earnings before interest and taxes (EBIT), for which it is required to previously estimate the value of the profits before interest, taxes, depreciation and amortization (EBITDA), data to which depreciation and amortization is added, if any; as shown in Table 1.

Table 1 Calculation of the Earnings Before Interests and Taxes (EBIT)

Year	2017	2016	2015	2014
EBITDA	$2,506,190.23	$2,144,674.04	$1,457,304.00	$2,025,508.13
EBIT	$1,313,916.29	$1,124,384.78	$764,018.41	$1,061,909.87
Depreciation and	.	.	.	.

Source: own elaboration based on research results

In the next step, it is proceeded to estimate the indicator of net operating profit after taxes (NOPAT), by calculating the difference between EBIT and taxes (Table 2); this information will be useful in later calculations.

Then, the analysis of the data corresponding to the Balance Sheets of the periods prior to the focal year is carried out to determine the total amount of capital invested by means of the sum of the investments made (Table 3).

Table 2 Estimate of Net Operating Profit After Tax (NOPAT)

Year	2017	2016	2015	2014
NOPAT	$919,741.40	$787,069.35	$534,812.89	$743,336.91
EBIT	$1,313,916.29	$1,124,384.78	$764,018.41	$1,061,909.87
Taxes	$394,174.89	$337,315.43	$229,205.52	$318,572.96

Source: own elaboration based on research results

Table 3 Calculation of the total invested capital

Year	2017	2016	2015	2014
Invested capital	$2,081,410.66	$1,781,168.63	$1,210,302.42	$1,682,200.41
Working capital	−$2,180,004.47	−$1,865,540.35	−$1,267,632.92	−$1,761,884.13
Current assets	$3,385,491.81	$2,897,136.98	$1,968,601.87	$2,736,161.49
Short term liabilites	$5,565,496.29	$4,762,677.33	$3,236,234.79	$4,498,045.62

Source: own elaboration based on research results

By dividing the NOPAT previously calculated between the estimated invested capital, the indicator called return on invested capital (ROIC) is obtained, as shown in Table 4.

Tabla 4 Estimate of Return on Invested Capital (ROIC)

Year	2017	2016	2015	2014
ROIC	44.2%	44.2%	44.2%	44.2%
NOPAT	$919,741.40	$787,069.35	$534,812.89	$743,336.91
Invested capital	$2,081,410.66	$1,781,168.63	$1,210,302.42	$1,682,200.41

Source: own elaboration based on research results

The indicator of return on equity (ROE) is then determined by means of the division of net income represented by NOPAT divided by the stockholders' equity shown in the balance sheet (Table 5).

Table 5 Calculation of Return on Equity (ROE)

Year	2017	2016	2015	2014
ROE	10.6%	10.6%	10.6%	10.6%
Net profit	$919,741.40	$787,069.35	$534,812.89	$743,336.91
Capital	$8,707,142.59	$7,451,143.34	$5,063,044.93	$7,037,130.66

Source: own elaboration based on research results

Next, data on capital investments or changes in CAPEX and changes in working capital are used to estimate the total expenditures by estimating their algebraic sum (Table 6).

By means of the division between total estimated outflows and the calculated NOPAT, the corresponding reinvestment rate is obtained for the periods indicated in Table 7.

Table 6 Estimate of the total expenses

Period	2016–2017	2015–2016	2014–2015
Total expenses Changes	–$207,957.20	–$395,400.13	$326,851.59

Source: own elaboration based on research results

Table 7 Calculation of the reinvestment rate

Period	2016–2017	2015–2016	2014–2015
Reinvestment rate	–23%	–50%	61%
Total expenses	–$207,957.20	–$395,400.13	$326,851.59
NOPAT	$919,741.40	$787,069.35	$534,812.89

Source: own elaboration based on research results

When performing the multiplication of the ROIC and the reinvestment rate previously estimated, the growth rate corresponding to the periods analyzed is obtained (Table 8).

Table 8 Estimate of the growth rate

Year	2016–2017	2015–2016	2014–2015
Growth rate	–10.0%	–22.2%	27.0%
ROIC	44%	44%	44%
Reinvestment			

Source: own elaboration based on research results

Once all the indicators shown previously have been calculated, the next step is to determine the Free Cash Flow as shown in Equation 1.

$$FCF = EBIT - \text{taxes} + \text{depreciation and amortization} - \text{capital investments} - \text{changes in working capital} \tag{1}$$

This formula is used for each period and at the end the average flow is estimated for all the years analyzed (Table 9).

Table 9 Conformation of the Free Cash Flow (FCF)

Year	2017	2016	2015	2014
EBIT	$1,313,916	$1,124,385	$764,018	$1,061,910
Taxes	$394,175	$337,315	$229,206	$318,573
NOPAT	$919,741	$787,069	$534,813	$743,337
Depreciation and amortization	$1,192,274	$1,020,289	$693,286	$963,598
Capital investments	$153,677	$292,193	–$241,537	$119,501

Source: own elaboration based on research results
Average FCF 2009-2012= $1,863,465

Once the average Free Cash Flow has been estimated for the analyzed period, we proceed to calculate the average of the Gross Domestic Product or GDP for the same period of time in order to use that rate to make a five-year projection based on the average obtained. From the average of the free cash flows, said value increases for each period projected by the average GDP growth rate during the analyzed years, in this case 4.14%.

By having the value of five years proyected into the future, we proceed to estimate the discount rate with which we will seek to obtain the Net Present Value or NPV of the company. The CAPM method was used to calculate this rate, as shown in Equation 2 and Table 10

$$CAPM = (\text{Risk premium x Market beta}) + \text{country risk} + \text{risk free rate}. \quad (2)$$

Table 10 Calculation of CAPM (Capital Asset Pricing Model)

Variable	Value
CAPM	5.60%
Risk free rate USA 10 year bonds	2.64%
Market yield (S&P 500)	4.53%
Risk premium	1.88%
Beta	0.90
Conuntry risk Mexico	1.26%

Source: own elaboration based on research results

It is important to note that the risk premium was estimated by means of the difference between the reference market yield (S&P 500) and the risk free rate (10-year US bonds) during the periods analyzed. These data are different for each of the two focal points. Additionally, the beta of the industry corresponds to the one belonging to the analyzed business in each case, so this value was different for each company.

This step consists in determining the value of each company using all the estimated free cash flows, the determined discount rate and the residual or perpetuity value of the company analyzed (Table 11).

Year	2018	2019	2020	2021	2022	Residual value
Proyected Free Cash Flow	$1,940,612	$2,020,954	$2,104,621	$2,191,752	$2,282,491	$163,084,291
		Company value		$172,022,832.75		

Source: own elaboration based on research results

To calculate the residual value (Equation 3), the value of the last projected year, the average GDP growth rate during the period and the estimated CAPM are used (Equation 3).

$$Residual\ value = \frac{(\$2,282,491 * (1+4.14\%))}{5.6\% - 4.14\%} = \$163,084,291 \quad (3)$$

The value of the company is obtained by discounting the net present value of the projected cash flows by means of the calculated CAPM rate and adding at the end the corresponding residual value or perpetuity (Equation 4).

$$Value\ of\ the\ company = \frac{\$1,940,612}{(1+5.60\%^1)} + \frac{\$2,020,954}{(1+5.60\%^2)} + \frac{\$2,104,621}{(1+5.60\%^3)} + \frac{\$2,191,752}{(1+5.60\%^4)} + \frac{\$2,282,491}{(1+5.60\%^5)} + \$163,084,291 = \$172,022,832.75 \qquad (4)$$

4. Estimation of the value of the companies analyzed prior to the certification as SRC through the FCF.

In this step of the proposed methodology, all the calculations described in the previous step are carried out again, this time taking into consideration the periods prior to the certification as a SRC of each specific company; which allows to obtain a second value of the companies through the free cash flow.

5. Identification of the economic value created for a company by its certification as a SRC.

The last part consists of determining the difference between both estimated values for each company, that is, between the value obtained in step 3 based on information after obtaining the distinctive and the value resulting from step 4 calculated from previous data to certification. In this way, it is possible to identify if the distinction as a SRC allowed companies to increase or decrease their economic value, both individually and in total.

4. Results presentation

Once the proposed methodology was applied and the value of the companies belonging to the sample was determined by estimating the free cash flow for the two focal points, one considered as prior to obtaining the distinctive as SRC and another subsequent to it, it is then proceeded to compare both values. It is important to mention that some of the data handled were expressed in millions of mexican pesos and others in thousands of millions of mexican pesos, however, taking into account that the data to analyze is the relative value with respect to the increase or decrease of its Flow Free of Cash for the periods analyzed, the results presented are expressed in percentage terms.

According to everything presented above, Table 12 shows the summary of the changes in the value of each one of the analyzed companies expressed in percentage, taking into account the values of free cash flows for the two determined focal points and attributing said change to obtaining the distinctive as a SRC.

As it is possible to observe in Table 12, the percental changes in the value of the free cash flow of the companies were diverse, from companies that gained 51.60% to companies that lost 17.63%, attributable to obtaining the SRC distinctive due to the two focal points that were taken into account. Additionally, the average change of the 32 companies analyzed was 6.26%, representing a positive change or increase in the average value obtained from the distinction as SRC.

Table 12 Porcentual differences between the obtained values

Changes in the value of each company analyzed expressed as a percentage	
1 GRUPO MODELO, S.A.B. DE C.V.	51.60%
2 GRUPO GIGANTE, S.A.B. DE C.V.	47.81%
3 GRUPO CARSO, S.A.B. DE C.V.	44.55%
4 COMPAÑIA MINERA AUTLAN, S.A.B. DE C. V.	40.68%
5 GRUPO INDUSTRIAL SALTILLO, S.A.B. DE C.V.	38.50%
6 BANCO BILBAO VIZCAYA ARGENTARIA, S.A.	35.02%
7 GRUPO PALACIO DE HIERRO, S.A.B. DE C.V.	26.91%
8 GRUPO TMM, S.A.	24.51%
9 GRUPO AEROPORTUARIO DEL SURESTE, S.A.B. DE C.V.	17.12%
10 VITRO, S.A.B. DE C.V.	14.77%
11 CORPORACION MOCTEZUMA, S.A.B. DE C.V.	13.80%
12 GRUPO POSADAS, S.A.B. DE C.V.	5.56%
13 CONSORCIO ARA, S.A.B. DE C.V.	4.80%
14 GRUPO HERDEZ, S.A.B. DE C.V.	3.64%
15 PROMOTORA AMBIENTAL, S.A.B. DE C.V.	2.58%
16 ARCA CONTINENTAL, S.A.B. DE C.V.	0.75%
17 INDUSTRIAS PEÑOLES, S. A.B. DE C. V.	-2.89%
18 BANCO SANTANDER, S.A.	-3.52%
19 ALSEA, S.A.B. DE C.V.	-3.91%
20 AXTEL, S.A.B. DE C.V.	-5.10%
21 GRUPO FINANCIERO BANORTE, S.A.B DE C.V.	-5.18%
22 GRUPO CEMENTOS DE CHIHUAHUA, S.A.B. DE C.V.	-8.02%
23 GRUPO BIMBO, S.A.B. DE C.V.	-11.06%
24 MAXCOM TELECOMUNICACIONES, S.A.B. DE C.V.	-12.82%
25 GRUPO NACIONAL PROVINCIAL, S.A.B.	-12.97%
26 GRUPO MINSA, S.A.B. DE C.V.	-13.82%
27 MEXICHEM, S.A.B. DE C.V.	-13.84%
28 FOMENTO ECONÓMICO MEXICANO, S.A.B. DE C.V.	-14.01%
29 WAL – MART DE MEXICO, S.A.B. DE C.V.	-14.90%
30 SANLUIS CORPORACION, S.A.B. DE C. V.	-15.28%
31 CEMEX, S.A.B. DE C.V.	-17.47%
32 COCA–COLA FEMSA, S.A.B. DE C.V.	-17.63%

Source: own elaboration based on research results

Table 13 Analysis of the normal distribution of the results obtained

Position below the normal distribution curve.	Corresponding ideal percentage	Percentage of results obtained.
More than 2 standard deviations.	4.2%	3.13%
Less than 2 standard deviations and more than 1.	27.2%	21.88%
Less than 1 standard deviation.	68.2%	75.00%

Source: own elaboration based on research results

As a measure of the validity of the results obtained, an analysis of the behavior of the percentage values obtained when comparing its distribution with the normal statistical distribution was made, the summary of results appears in Table 13.

The results obtained in percentage show a reasonable similarity with the ideal percentage proposed by the normal distribution, being a slightly higher concentration in the central part of the curve, that is, between -1 and +1 standard deviations. In this way, the results obtained have a solid statistical validity that allows us to conclude that obtaining the SRC distinctive granted by CEMEFI for companies listed on the Mexican Stock Exchange considered in the sample has effectively affected the value of said companies by increasing their value measured by free cash flow by an average of 6.26% after the distinction.

5. Conclusions and discussion of results

This research work has been carried out under the approach of recognizing the importance of the SRC as a new way of doing business, as a new paradigm of inclusion in decision-making for all those involved in the activities of companies; therefore, it is evident the need to measure its economic impact in such a way that its potential benefits are shown and thus more and more organizations have incentives to join this new trend.

When carrying out the review of the corresponding literature, it was determined that there are several studies that have focused on establishing the possible relationships between the economic benefits and the incorporation of activities that imply corporate social responsibility, the results found were diverse; concluding the need to continue carrying out research in this regard and using methodologies different from those commonly used.

Due to the nature of the companies, it was determined to use the income capitalization approach and specifically the free cash flow method to estimate the value prior to and after the distinction of the companies analyzed and thus conclude the possible impact on the economic value of organizations that have adopted corporate social responsibility practices. The above was applied to a sample of companies clearly identified as socially responsible companies with public and audited financial information listed on the Mexican Stock Exchange.

The present work provides validity to the argument that efforts to improve the company's relationship with the rest of the interest groups involved in its operation, has a positive effect on the economic value of it. In this way, the research carried out contributes to future research on the creation of economic and financial value from obtaining certifications in social responsibility for the companies that invest in said activities. Subsequent studies could focus on conducting an in-depth analysis of the quantitative and qualitative variables that allow this increase in economic value to be generated.

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