Article ECORFAN Journal-Republic of Cameroon
December, 2022 Vol.8 No.15 14-21

Financial Sustainability in MSMEs of civil and electrical engineering in Coatzacoalcos

Sustentabilidad Financiera en MIPYMES de ingeniería civil y eléctrica de Coatzacoalcos

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DOI: 10.35429/EJRC.2022.15.8.14.21 Received September 27, 2022; Accepted December 20, 2022

Abstract

The factors that put financial stability at risk, and the successes in the financial management of MSMEs related to civil and electrical engineering in Coatzacoalcos were obtained. And the importance of financial planning and the Weighted Average Cost of Capital (CCPP or WACC) was shown, in addition to the Profitability of the company, which can be Economic or Financial, of the financial administration, the financial ratios of liquidity, of indebtedness. , profitability and coverage, economic risks globalization with the arrival of foreign companies, resulting in increased competition, and financial risk with the same globalization, the world economy is decisive for countries like the US and China for example In the methodological aspect, the survey was applied in which the MSMEs were also questioned about the financial risks, and the successes in their financial management. The survey was applied to 5 companies, of which 4 are from the branch of civil engineering, and 1 company dedicated to electrical engineering, company 1 that is medium presents a better financial management.

Management, Financial, Sustainability

Resumen

Se obtuvieron los factores que ponen en riesgo la estabilidad financiera, y los aciertos en la Gestión financiera de las MIPYMES relacionadas a la ingeniería civil y eléctrica en Coatzacoalcos. Y se mostró la importancia de la Planeación financiera y del Costo de Capital Promedio Ponderado (CCPP o WACC), además de la Rentabilidad de la empresa, la cual puede ser Económica o Financiera, de la administración financiera las Razones financieras de liquidez, de endeudamiento, rentabilidad y de cobertura, de los riesgos económicos la globalización con la llegada de empresas extranjeras, dando como resultado un incremento de la competencia, y del riesgo financiero con la misma globalización, la economía mundial es determinante por países como EUA y China por ejemplo, en el aspecto metodológico se aplicó la encuesta en la que también se interrogo a las MIPYMES los riesgos financieros, y los aciertos en su gestión financiera. La encuesta se aplicó a 5 empresas, de las cuales 4 son de la rama de ingeniería civil, y 1 empresa dedicada a la ingeniería eléctrica, la empresa 1 que es mediana presenta una mejor gestión financiera.

Gestión, Financiera, Sustentabilidad

Citation: MENDOZA-GONZÁLEZ, Felipe, CÓRDOVA-ESCOBEDO, Jesús Fausto, RUEDA-MARTINEZ, Fernando and GARCÍA-MUÑOZ APARICIO, Cecilia. Financial Sustainability in MSMEs of civil and electrical engineering in Coatzacoalcos. ECORFAN Journal-Republic of Cameroon. 2022, 8-15: 14-21

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Introduction

According to Zamora (2018, para. 5):

Small and medium-sized enterprises (PYMES) contribute 52% of the Gross Domestic Product (PIB) and generate 72% of employment in the country, so it is necessary that we be empathetic and very responsible to give impetus to their businesses, since suffered havoc in the sale of their products caused by the pandemic.

Contrary to what one might think, large companies are not the basis of the country's economy and PYMES are, for this reason it is concluded that these companies must have good financial management, to achieve stability and sustained growth or in a few words that are profitable or financially sustainable.

Unfortunately, statistics say that 90% of PYMES do not exceed two years of existence, and their mortality is very high. As indicated by Sordo (s/f, para. 19): According to the study presented by INEGI, between 2020 and 2021 more than 1.2 million PYMES were born in the country. On the contrary, more than 1.6 million businesses of this type closed their doors permanently.

But there are also more and more companies that are adapting to the great challenges demanded today by the globalized world in which we live.

The general objective will be to analyze the financially sustainable competitiveness strategies of micro, small and medium-sized companies dedicated to civil and electrical engineering in Coatzacoalcos, based on the results, PYMES will have Sustainable Financial Management references to be responsible, especially with a good economic stability, and can face future problems and develop.

The investigation to analyze the financial sustainability, was carried out with the statistics of the survey to the MIPYMES of Civil and Electrical Engineering of Coatzacoalcos, in addition to establishing the risks and successes that they have had.

1. Financial management

1.1. Planning and Weighted Average Cost of Capital

The importance of Financial Planning is very high, because it is a complement to Strategic Planning, this means that it can also help decision-making regarding the alternatives that are in Planning, it serves to determine in the different periods (years) the financing needs of the company, also considering the economic resources and income that the organization has. It is used to project into the future to meet the proposed objectives.

If we are talking about short deadlines, then it refers to Financial Budget, its advantages being the best distribution of resources, which generates a lot of information, serves as motivation and communication in the company, etc. And its greatest importance lies in achieving the objectives of the company.

It is relevant to know the Weighted Average Cost of Capital (CCPP or WACC) because in this way it will be possible to determine if the financing sources they are choosing are adequate for the profitability of a company project, since it could be financing with a result of CCPP that is greater than the yield of the project.

For Fernández (2011):

The WACC is neither a cost nor a required return, but a weighted average between a cost and a required return. Calling the WACC "cost of capital" or "cost of resources" produces many errors, because it is not a cost (p. 2).

In short, adequate financing must be analyzed and calculated to ensure that:

Performance (%) > CCPP (%).

1.2. Company profitability

The literature indicates that there are many definitions for the concept of Profitability, as Sánchez (2002) says "the term profitability is used in a very varied way and there are many doctrinal approaches that affect one or another facet of it" (p. 2), but basically profitability is the profit obtained in a period for an investment made.

This investment can be made with the company's capital or with economic resources outside the organization and which is known as financing, in the end it is It is important that the income is greater than the output.

The profitability of the company can be divided into Economic Profitability and Financial Profitability, the first according to Sánchez (2002) "a concept of known or expected result is related, before interest, with all the economic capital used in obtaining it, without take into account the financing or origin of the same" (p. 4), this profitability represents the return on the investment of the company. Financial Profitability for Sánchez (2002) "faces a concept of known or expected result, after interest, with the company's own funds, and that represents the performance that corresponds to them." (p. 4).

Three internal factors in a small and medium-sized company that can determine its profitability are, Economic Exploitation Profitability, Sánchez (2002) "This indicator is usually called economic exploitation profitability, and constitutes the most important core of the company's profitability, since that is calculating the profitability of the company's typical activity" (p. 7).

The following is that of Financial Profitability considering the net result, and that for Sánchez (2002) "As a concept of result, the most used expression is net result, considering as such the result of the year" (p. 11).

And finally the Self-generated Profitability, in which Lizcano (2004) indicates that:

Self-generated profitability tries to show the company's ability to generate internal financial resources. As a result of the activities of the period, the company will have obtained, on the one hand, a result, and on the other, it will have been able to allocate depreciation in relation to tangible and/or intangible assets (p. 16).

1.3. Financial administration

"More than ever, finance needs to play a vital strategic role in corporations. Financial managers are now directly involved in the overall efforts of companies to create value" (Van Horne, Wachowicz, 2002, p. 2).

The financial ratios (accountable amount / accounting amount) are important because they indicate how the finances are in the company or how the financial situation is. Many times you may think that the number alone can provide enough information, but in reality it is not, using the financial ratios you can determine if the company is indeed on the right track or if you have to use other alternatives or establish other policies economic, with the financial ratios you can make comparisons between different periods, or with other companies of the same line of business, for example, the financial ratios are indicators and that is why it is very important to use them.

Mentioning which are the most important is complex because this will depend on the organization, its size, line of business, etc., but in general the financial ratios are divided into: Liquidity ratios, Debt ratios, Profitability ratios, and Debt ratios. coverage.

As an example, we have the following Financial Ratios, Acid Test, Debt Ratio, and Return on Investment.

1.4. Economic and financial risks

The main economic risks in the current global scenario are the following: Due to the arrival of foreign companies, resulting in new and more competitors. Globalization brings with it the establishment of foreign companies in the country, increasing competition in the supply of products and services.

Technological innovation, by national and foreign companies. The strong technological development in relatively short times, pressures companies to be at the technological forefront.

For the country's own economy. A healthy economy in the nation will encourage market growth, giving stability to companies, on the contrary, a slowdown or economic recession or, in a few words, an economic crisis will harm the economy of companies, due to the low demand for their products and services.

According to Mascareñas (2008): Financial risk refers to the uncertainty associated with the return on investment due to the possibility that the company may not be able to meet its financial obligations (mainly, interest payments and debt amortization) (p. 6).

Regarding the main financial risks in the current global panorama, the world economy is very important, due to the economic crises that could occur in countries such as the United States and China, for example, which can affect interest rates in the national banks. , making debts unpayable for companies, having high rates.

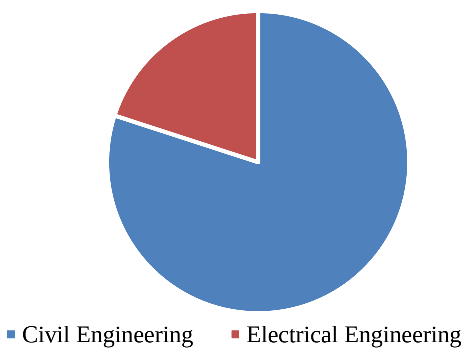
Methodology

The survey was answered by 5 MIPYMES, of which 4 are from the branch of civil engineering and 1 from electrical engineering. Those that we will call Company 1, Company 2, Company 3, Company 4 and Company 5, to keep their financial management secret.

Inquiry of MIPYMES in Coatzacoalcos.

Civil Engineering	4	80%
Electrical Engineering	1	20%

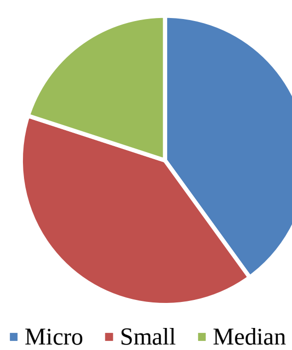
Table 1 What is the engineering branch of the company?
Source: Own Elaboration (2022)



Graphic 1 What is the engineering branch of the company?
Source: Own Elaboration (2022)

Micro	2	40%
Small	2	40%
Median	1	20%

Table 2 Size of the company
Source: Own Elaboration (2022)



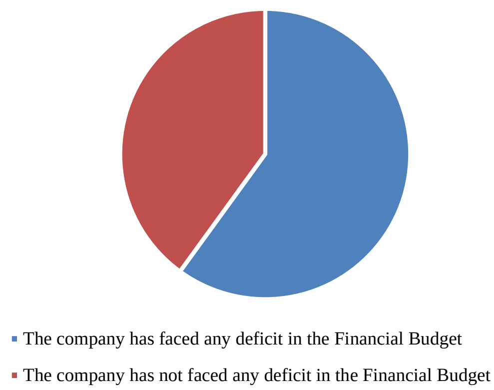
Graphic 2 *Size of the company*
Source: Own Elaboration (2022)

Company 1	Managing Director, Civil Engineering
Company 2	Accountant, accounting
Company 3	Sole Administrator, Master of Business Administration
Company 4	No
Company 5	No

Table 3 Position and academic preparation of the person in charge of Financial Management
Source: Own Elaboration (2022)

The company has faced any deficit in the Financial Budget	3	60%
The company has not faced any deficit in the Financial Budget	2	40%

Table 4 The company has had to face some deficit in the Financial Budget
Source: Own Elaboration (2022)



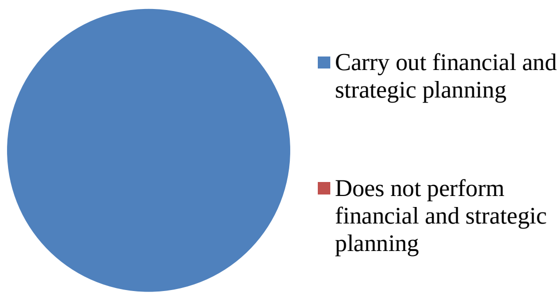
Graphic 3 The company has had to face some deficit in the Financial Budget
Source: Own Elaboration (2022)

Company 1	No
Company 2	No
Company 3	Personal loans
Company 4	Bank loan
Company 5	Bank revolving credit

Table 5 What kind of financing did you use?
Source: Own Elaboration (2022)

Company 1	Yes
Company 2	Yes
Company 3	Yes
Company 4	Yes
Company 5	Yes

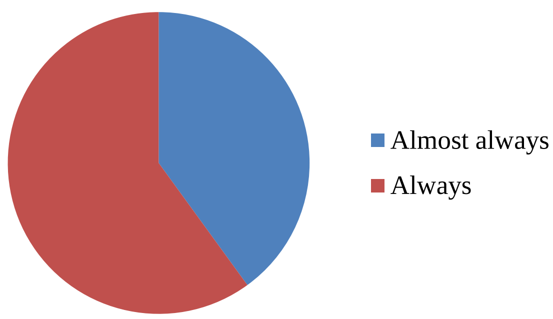
Table 6 Perform Financial and Strategic Planning
Source: Own Elaboration (2022)



Graphic 3 Perform Financial and Strategic Planning
Source: Own Elaboration (2022)

Company 1	Almost always
Company 2	Almost always
Company 3	Always
Company 4	Always
Company 5	Always

Table 7 Relates its Financial Planning with the Strategic Planning of the Company
Source: Own Elaboration (2022)



Graphic 4 It relates its Financial Planning with the Strategic Planning of the Company
Source: Own Elaboration (2022)

Company 1	Almost always
Company 2	Almost always
Company 3	Sometimes
Company 4	Almost always
Company 5	Always

Table 8 Financial Planning has helped you meet the proposed Strategic Objectives
Source: Own Elaboration (2022)

Company 1	Almost always
Company 2	Sometimes
Company 3	Sometimes
Company 4	Almost always
Company 5	Never

Table 9 The company determines the Weighted Average Cost of Capital (CCPP or WACC)
Source: Own Elaboration (2022)

Company 1	Economic profitability of exploitation, Financial Profitability
Company 2	Financial Profitability, Quality-time
Company 3	Self-generated Profitability, Income-Expense Graphs, break-even point in each project
Company 4	Financial Profitability, Accounting Control
Company 5	Self-generated Profitability, Profit after tax (UDI), % of UDI variation

Table 10 To determine the profitability of the company, what indicators does it use?
Source: Own Elaboration (2022)

Company 1	Current Ratio, Return on Investment
Company 2	Indebtedness Ratio, Working Capital Ratio
Company 3	Investment Return
Company 4	Investment Return
Company 5	Acid test

Table 11 For the Financial Administration of the Company, which Financial Ratios does it use?
Source: Own Elaboration (2022)

Company 1	No
Company 2	No
Company 3	current assets/current liabilities
Company 4	No
Company 5	Liquidity ratio

Table 12 Indicate what other liquidity ratios you use
Source: Own Elaboration (2022)

Company 1	No
Company 2	No
Company 3	Only personal loans
Company 4	Partner loans
Company 5	We have no debt

Table 13 Indicate what other debt ratios you use
Source: Own Elaboration (2022)

Company 1	No
Company 2	No
Company 3	Net profit / sales
Company 4	Accounting
Company 5	Net profit margin

Table 14 Indicate what other Profitability Ratios you use
Source: Own Elaboration (2022)

Company 1	No
Company 2	No
Company 3	Solvency reasons
Company 4	Partner loan
Company 5	Liquidity ratio

Table 15 Please indicate what other Coverage Reasons you use
Source: Own Elaboration (2022)

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Company 1	Almost always
Company 2	Always
Company 3	Rarely
Company 4	Almost always
Company 5	Sometimes

Table 16 Make Comparisons of Financial Ratios between different periods
Source: Own Elaboration (2022)

Company 1	Almost always
Company 2	Sometimes
Company 3	Rarely
Company 4	Rarely
Company 5	Rarely

Table 17 Make Comparisons of Financial Ratios with other company(s) of the same line of business
Source: Own Elaboration (2022)

Company 1	Almost always
Company 2	Sometimes
Company 3	Rarely
Company 4	Sometimes
Company 5	Sometimes

Table 18 Due to the results of the Financial Reasons, it has had to make use of other alternatives or establish other economic policie
Source: Own Elaboration (2022)

Company 1	Short periods
Company 2	Mostly short periods
Company 3	Short periods
Company 4	Both periods
Company 5	Mostly short periods

Table 19 For financial risk, the company chooses which type of period to pay its debt
Source: Own Elaboration (2022)

Company 1	Almost always
Company 2	Rarely
Company 3	Rarely
Company 4	Never
Company 5	Sometimes

Table 20 The company uses the Risk Matrix
Source: Own Elaboration (2022)

Company 1	Almost always
Company 2	Rarely
Company 3	Almost always
Company 4	Never
Company 5	Sometimes

Table 21 The responses to the risks in the Matrix have helped you resolve the risks
Source: Own Elaboration (2022)

Company 1	The number of works offered
Company 2	Change of climate, delay of works and therefore delay of payment
Company 3	Late payments
Company 4	Non-payment of customers
Company 5	Client investment policies

Table 22 What factors put the financial stability of the company at risk
Source: Own Elaboration (2022)

Company 1	Correct planning and financial responsibility throughout its history
Company 2	Unanswered
Company 3	consider indirect costs above the ordinary, exclusivity with captive customers
Company 4	income and expenses are tracked by area of the company
Company 5	Have no debt and generate profits

Table 23 Write what you consider to be the financial successes that the company has had
Source: Own Elaboration (2022)

Results

From the survey applied to companies, we have the following responses.

With question 1 it is determined that of the 5 companies that responded to the survey, 4 are from the branch of civil engineering and 1 from electrical engineering.

From question 2, 40% of the companies are Micro, 40% Small and 20% Medium.

In question 3, the general director is responsible for the Financial Management of the company, the accountant in another and the sole administrator in the third company, in the other two companies they do not have someone with that task.

With question 4, it was found that 3 companies have faced a deficit in the financial Budget, and 2 have not.

In question 5, two fifths of the companies (2) did not resort to any type of financing, one company applied to personal loans, another company to a bank loan and the third company to bank revolving credit.

For question 6, 100% of the companies carry out Financial and Strategic Planning.

ISSN-On line: 2414-4959

Two companies almost always relate financial planning to strategic planning, and 3 companies always relate them, answer to question 7.

Financial planning has always helped a company meet strategic objectives, almost always 3 companies, and sometimes a company, question 8.

For question 9 on whether the company determines the Weighted Average Cost of Capital, two companies almost always calculate it, two companies sometimes, and one company never.

In question 10 the companies indicate which indicators they use to determine the profitability of the company.

The 5 companies present what financial ratios they use, in question 11.

Regarding question 12, 60% of the companies answered that they do not use other liquidity ratios, and 40% do indicate them.

In response to question 13, 40% do not use other debt reasons, another 40% do, and 20% declare that they have no debt.

In the response to question 14, 2 companies do not use other profitability ratios, and the remaining 3 companies do.

Two companies do not use other coverage reasons, answer to question 15, and three companies do.

In question 16, a company always compares the financial ratios between different periods, two companies almost always, one company sometimes and another company almost never.

Three companies almost never make financial ratio comparisons with other companies, one company sometimes and another company almost always, question 17.

For question 18, a company almost always, due to the results of the Financial Reasons, has had to make use of other economic policies, three companies sometimes and one company almost never.

In question 19, due to financial risk, two companies choose to pay their debt in short periods, another two companies mostly in short periods, and one company in both periods.

The risk matrix is almost always used by one company, sometimes by another company, two companies almost never and one company never, question 20.

Almost the same results in question 21, except for company 3, where the answers to the risks in the Matrix have almost always helped them to resolve the risks.

Question 22 is important, because companies answer what factors put financial stability at risk.

Just as relevant, that in question 23 the companies report what they consider to be the financial successes they have had.

Gratitude

A special thanks to the Coatzacoalcos companies that responded to the survey.

Conclusions

Based on the responses of the companies, the following conclusions are reached, with respect to their financial management, so that it is sustainable:

– 3 Companies (60%) have a person responsible for Financial Management. To achieve sustainability, companies must have a person in charge of Financial Management.

– The 5 companies (100%) relate Financial Planning to Strategic Planning, and 4 companies (80%) meet their strategic objectives. This being the purpose of relating both plans.

– 40% determines the Weighted Average Cost of Capital. The calculation is important to be able to correctly finance a specific project.

- 60% of the companies calculate the Financial Profitability, and 40% the Self-generated Profitability. Companies must know the Profitability, either economic and/or financial.

- 40% use working capital ratio, another 40% return on investment. Financial Reasons are important for proper financial management of the company.

- 60% make comparisons of Financial Ratios between different periods.

- Company 1, being of medium size, presents a better Financial Management, since it also makes comparisons of the Financial Ratios with other companies of the same line of business, due to the results of the Financial Ratios, it has had to make use of other alternatives or establish other economic policies, use the Risk Matrix and it helps you resolve them.

- For financial risk, 80% (4 companies), including company 1, opt for short periods to pay their debts.

Regarding the factors that put financial stability at risk, the companies indicate the following: The number of works offered; change of climate, delay of works and therefore delay of payment; late payments; non-payment of clients; investment policies of clients.

And finally, of great relevance to achieve Sustainable Financial Management, companies expose their successes: Correct planning and financial responsibility throughout its history; consider indirect costs above the ordinary, exclusivity with captive customers; income and expenses are tracked by area of the company; have no debt and generate profits.

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