



# The Implementation of BCG Matrix in PT. Semen Tonasa

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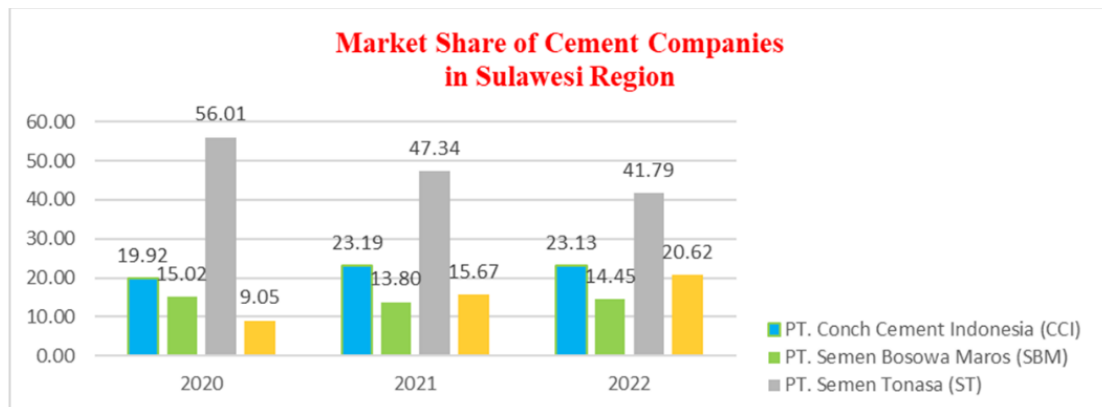
**Abstract.** The aims of this research is to determine the sales growth rate (SGR) and the relative market share (RMS) position of PT. Semen Tonasa in the South Sulawesi region in 2021 and 2022, then determines a business strategy that is feasible to implement in order to compete with its main competitors in the region. The method used to design the business strategy that will be implemented by PT. Semen Tonasa in the region is a Boston Consulting Group (BCG) matrix, a matrix which is divided into four quadrants (stars, question marks, cash cows, and dogs) and unfortunately it has many drawbacks, including the classification into four quadrants is unduly simplified. The results show that the SGR and the RMS have an increasing trend in the period of 2020 to 2022. The increase of SGR and RMS mainly affected by the much greater increasing of PT. Semen Tonasa sales volume in 2021 and 2022 compared to its main competitors. Maintaining PT. Semen Tonasa's SGR and RMS will need ongoing sales volume and value growth, as well as the implementation of the best plan given the challenges the company faces.

**Keywords:** SGR, RMS, BCG, Tonasa, Bosowa

## 1 Introduction

Since the Joko Widodo administration period which began in 2014, infrastructure development in Indonesia has become a priority scale [1]. The priority scale for infrastructure development continued in the 2nd term of Joko Widodo's administration (2019-2024). In 2022 the budget for infrastructure development will reach IDR 384.8 trillion (kompas.com). According to [2], some infrastructure developments in 2022 that are directly related to cement needs are the construction of special houses (2,250 units), the construction of flats (3,501 units), the construction of irrigation networks (105,000 hectares), the construction of new roads (205 kilo meters), the construction of new bridges (8,244 meters), support for the construction of the Trans Sumatra toll road, and the construction of new airports (6 airports). The rapid development of this infrastructure turns out to be inconsistent with PT. Semen Tonasa market share in Sulawesi region as shown in the following figure (Figure 1).

Based on the above problems, the main objectives of this research are to determine the sales growth rate (SGR) and relative market share position (RMS) of PT. Semen Tonasa in Sulawesi region for the period of 2020, 2021, and 2022, then determine a business strategy that is feasible to implement in order to compete with its main competitors in Sulawesi region. The market share of cement companies in Sulawesi region can be seen in the following figure [3]:

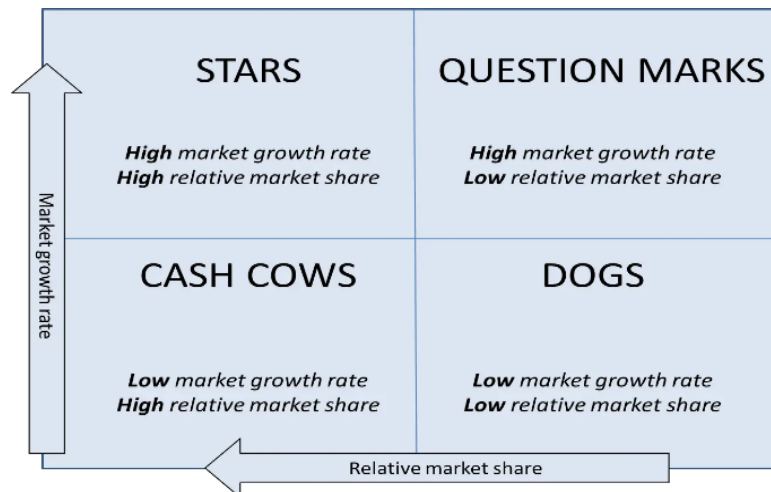


**Fig. 1.** Market share of Cement Companies in Sulawesi Region (2020-2022)

The figure shows that PT. Semen Tonasa market share tends to decrease in the last three years, reach the lowest in year 2022, whereas the market share of other cement companies tend to increase in the same period of time. The decrease in the market share of PT. Semen Tonasa is certainly interesting to explore the cause and then find a solution in order to increase PT. Semen Tonasa market share in the future.

## 2 Research Method

The research consists of four steps. Firstly, calculate the sales growth rate (SGR) of PT. Semen Tonasa. Secondly, determine its relative market share (RMS). Thirdly, determine the quadrants in the Boston Consulting Group (BCG) matrix based on the SGR and RMS of PT. Semen Tonasa. Finally, choose business strategy based on the particular quadrant. Boston Consulting Group (BCG) matrix is divided into four quadrants (stars, question marks, cash cows, and dogs) where each quadrant requires a different strategy to increase SGR and RMS in the future. The BCG matrix required sales volume data of PT. Semen Tonasa and its main competitor in order to calculate the SGR and RMS. The four quadrants of BCG matrix are shown in the following figure [4]:



**Fig. 2.** BCG Matrix

The steps of BCG Matrix are explained in the following [5]:

1. Calculate the sales growth rate (SGR) using the following formula.

$$SGR = \frac{\text{Sales value year } n - \text{Sales value year } (n - 1)}{\text{Sales value year } (n - 1)} \times 100\%$$

2. Calculate the relative market share (RMS) using the following formula

$$RMS = \frac{\text{Annually sales value of PT. Semen Tonasa}}{\text{Annually sales value of the main competotors}}$$

3. Determine the quadrants in the Boston Consulting Group (BCG) matrix according to the sales growth rate (SGR) and relative market share (RMS) of PT. Semen Tonasa.
4. Choose one strategy from 4 selected strategies (star, question mark, cash cow, or dog) according to the sales growth rate (SGR) and relative market share (RMS) of PT. Semen Tonasa.

Figure 2 shows six quadrants that each quadrant shows a different business situation faced by the company [6]. The explanation of each quadrant is the following:

- Question Marks are brand-new items with great promise but high development costs. They are also known as "problem children" or "wildcats" and are often referred to as such. To become an industry leader and a star, it needs to divert money from established products into the question mark if it is to be able to obtain the necessary market share. The management shall decide whether the company is worthy of the requested expenditure, by way of a "fish or cut bait" judgment.
- Stars are market leaders who are normally at or near the height of their perceived product life cycle, are able to generate enough revenue to retain their high market share, and typically make a profit for the company.

- In order to maintain market shares, cash cows are frequently generating significantly more revenue than is necessary. At this stage of their life cycle, these items are "milked" for money, which may even decline, so that money can be invested in new question marks. The costs of research, development and promotion are reduced.
- Dogs have a small market share and little chance of becoming wealthy (usually because they operate in an unattractive sector with a weak market position). According to the BCG Growth-Share Matrix, dogs should either be disposed of or carefully managed for the emaciated income they can produce.

### 3 Results and Discussions

The sales values of PT. Semen Tonasa from year 2019 to 2022 are shown in the following table [2]:

**Table 1.** Sales Value of PT. Semen Tonasa

Cement Types	Sales Values (in thousand IDR)			
	2019	2020	2021	2022
Bulk	292,503.9	212,605,7	190,254,0	262,859.7
Bag	984,318.9	881,757,3	844,539.3	854.587.8
Total	1,276,822.8	1.094.363,0	1.034.793.3	1.117.447.5

The table 1 shows that the total sales values of PT. Semen Tonasa in Sulawesi marketing area fluctuates in the last 4 years, whereas the total reached the peak in year 2019 (before pandemic Covid-19) with 1,276,822.8 sales value.

On the other hand, the main competitor in the Sulawesi marketing area (PT. Semen Bosowa) has total sales values as shown in the following table [2]:

**Table 2.** Sales Value of PT. Semen Bosowa

Cement Types	Sales Value (in thousand IDR)			
	2019	2020	2021	2022
Bulk	132,912.9	105,298.9	74,866.2	65,902.7
Bag	476,923.7	312,917.2	345,146.8	406,233.3
Total	609,836.6	418,216.1	420,013.0	472,136.0

The table 2 shows that the total sales values of PT. Semen Bosowa tends to increase in the last 3 years, although the sales did not reach as high as in the year 2019 (before pandemic Covid-19) which reached 609,836.6 sales value.

Table 1 and table 2 also show that the total sales values of PT. Semen Tonasa are much higher than the total sales values of PT. Semen Bosowa in the last 4 years. After calculating the total sales value of both parties, the next step before drawing BCG matrix is calculating the sales growth rate (SGR). The SGR of PT. Semen Tonasa and

PT. Semen Bosowa in the last 3 years are shown in table 3 and table 4 respectively [2]:

**Table 3.** Market share of PT. Semen Tonasa

Cement Types	2020	2021	2022
Bulk	-0,27	-0,11	0,38
Bag	-0,10	-0,04	0,01
Total	-0,14	-0,05	0,08

**Table 4.** Market share of PT. Semen Bosowa

Cement Types	2020	2021	2022
Bulk	-0,21	-0,29	-0,12
Bag	-0,34	0,10	0,18
Total	-0,31	0,00	0,12

The table 3 and table 4 show that the market share of PT. Semen Tonasa for both cement types and the total increase in the last 3 years, whereas market share of PT. Semen Bosowa for both cement types fluctuate, but its total tend to increase in the same period of time.

After calculating the sales growth rate (SGR) of PT. Semen Tonasa and its main competitor (PT. Semen Bosowa), the next step is calculating the market share of two parties to find out the relative market share (RMS) of PT. Semen Tonasa. The RMS of PT. Semen Tonasa for both Bulk and Bag cement types are shown in the following tables (table 5, 6, and 7).

The table 5, table 6, and table 7 show that the RMS of PT. Semen Tonasa for Bulk cement type increases in the last 3 years, whereas the RMS of PT. Semen Tonasa for Bag cement type decreases, and the total of RMS (Bulk and Bag) is stable in the same period of time. The stable RMS implies that PT. Semen Tonasa can maintain its competitive advantage in the last three years.

**Table 5.** Relative Market Share (Bulk)

Year	Sales Value (thousand IDR)		RMS
	PT. Semen Tonasa	PT. Semen Bosowa	
2020	212,605.7	132,912.9	1.60
2021	190,254.0	74,866.2	2.54
2022	262,859.7	65,902.6	3.99

**Table 6.** Table 6. Relative Market Share (Bag)

Year	Sales Value (thousand IDR)		RMS
	PT. Semen Tonasa	PT. Semen Bosowa	
2020	881,757.3	312,917.1	2.82
2021	844,539.3	345,146.8	2.45
2022	854,587.7	406,233.4	2.10

**Table 7.** Relative Market Share (Total)

Year	Sales Value (IDR)		RMS
	PT. Semen Tonasa	PT. Semen Bosowa	
2020	1.094.363.066.218	445.829.983.536	2,45
2021	1.034.793.365.332	420.013.044.436	2,46
2022	1.117.447.505.400	472.136.074.327	2,37

### 3.1 Boston Consulting Group (BCG) Matrix and The Business Strategy

After calculating the sales growth rate (SGR) and the relative markets share (RMS), the Boston Consulting Group (BCG) matrix can be drawn by combining or plotting the SGR and the RMS in the BCG matrix [3]. The figures below show the Strategic Business Unit (SBU) or BCG matrix for the year 2020, 2021, and 2022 respectively.

Figure 3 below shows that in 2020, the Bulk cement type of PT. Semen Tonasa is in the Cash Cows quadrant, while Bag cement type of PT. Semen Tonasa is in the Question Marks quadrant. The initial quadrant shows that PT. Semen Tonasa has a low market growth rate and but it operates in a high relative market share. At this stage of PT Semen Tonasa life cycle, the company should maintain its market shares and frequently generate significantly more revenue than is necessary. Meanwhile, the ultimate quadrant shows that PT. Semen Tonasa operates in a fast-growing industry and in a low relative market share. The Question Marks quadrant also shows that PT. Semen Tonasa might consume large amounts of cash because in this stage, the company requires brand-new items with great promise but high development costs.

The quadrant of PT Semen Tonasa in 2020 indicate a good sales performance for PT. Semen Tonasa because the proportion of Bag cement sales of PT. Semen Tonasa (which is in the Question Marks quadrant) is greater than the proportion of Bulk cement sales (which is in the Cash Cows quadrant). These two quadrants suggest that PT Semen Tonasa may implement promotional strategies for Bag cement and continue to divest or rebrand for Bulk cement.



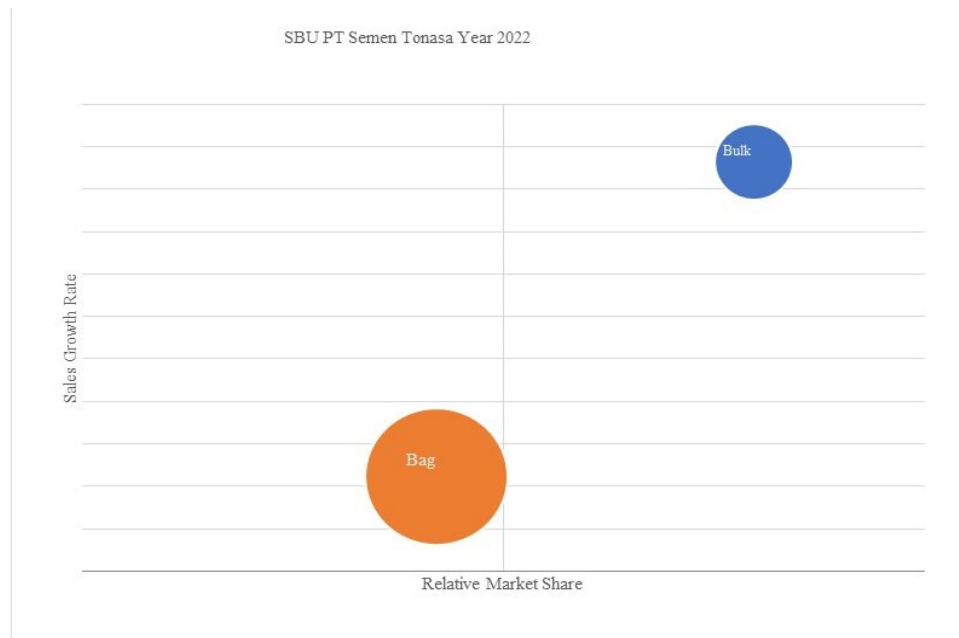
**Fig. 3.** BCG matrix of PT. Semen Tonasa Year 2020

Figure 4 below shows that the type of Bulk cement of PT. Semen Tonasa is in the Dogs quadrant, while Bag cement type of PT. Semen Tonasa is in the Stars quadrant. The Dogs quadrant indicates that PT. Semen Tonasa is in the most detrimental situation because it has lower market share compared to its competitor (PT. Semen Bosowa) and operate in a slow growing market. This implies that PT. Semen Tonasa must either be disposed of or carefully managed for the emaciated income they produce.



**Fig. 4.** BCG matrix of PT. Semen Tonasa Year 2021

Meanwhile, the Stars quadrant shows that the Bag cement type of PT. Semen Tonasa has a high market share in a fast-growing market and typically make a profit for the company. This means that PT. Semen Tonasa must prepare large funds to support the Bulk cement sales by taking advantage of the momentum of the Bag cement market which is growing rapidly.



**Fig. 5.** BCG matrix of PT. Semen Tonasa Year 2022

The figure 5 above shows that the type of Bulk cement of PT. Semen Tonasa is in the Question Marks quadrant, while Bag cement type of PT. Semen Tonasa is in the Cash Cows quadrant. The Question Marks quadrant indicate that PT. Semen Tonasa has a high market growth rate but operates in low relative market share. In this stage, PT Semen Tonasa may need to spend a lot of money because the company needs novel products with enormous potential but expensive development expenses. Meanwhile, the Cash Cows quadrant shows that PT. Semen Tonasa operates in a low-growing industry but maintains a high relative market share. In the Cash Cows quadrant, PT Semen Tonasa is being "milked" to extract money, which might even decrease, so that funds can be reinvested in more Question Marks. Research, development, and promotion expenses in this quadrant are decreased.

### 3.2 *Strategic Business Unit (SBU)*

When the company is in the Starts quadrant, all forms of promotional strategies are highly recommended [7]. This is because competition for market growth is quite tight. Hence, concentration and focus are really needed. Whereas if the company is in the Dogs quadrant, it needs to see how much investment it has. After that, decide whether it is necessary to divest or rebrand the product. [8] adds that return Dogs to Stars quadrant or to Cash Cows quadrant, is very complicated. What is possible is just moving to Question Marks quadrant. So, the suitable strategy when the company is in the Dogs quadrant is to continue to divest or rebrand product. Furthermore, when the company is in the Cash Cows quadrant, and because the market is not very developed in this quadrant, the company needs to use the right strategy such as loyalty programs



or those that include customer satisfaction [9, 10]. Finally, what does the company release is a new product in the Question Marks quadrant [11], so it needs a strategy that is right on target, which is similar to the strategy used by Stars. However, there is something more specific, namely customer acquisition strategy. This strategy is claimed to be effective enough to eliminate Question Marks and move to Starts quadrant.

The BCG Matrix makes it possible to quickly compare several business units and establishes a framework for allocating resources amongst various business units. However, according to [5], the BCG matrix has many disadvantages, including that it ranks cases as low and high, when overall they may be average. Additionally, high market share does not always lead to high profits. The BCG matrix is also overly simplistic in classifying this approach into four quadrants.

## 4 Conclusion

The Sales Growth Rate (SGR) of Bulk cement shows an increasing trend with SGR remaining minus in 2020 and 2021 and then increasing drastically in 2022 to 38.16%. Meanwhile, SGR of Bag cement type of PT. Semen Tonasa also shows an increasing trend with an insignificant increase in 2020 and 2021. The SGR of Bag cement of PT. Semen Tonasa is still at a minus percentage, but it increases to 1.19% in 2022. Meanwhile, the Relative Market Share (RMS) of Bulk cement type of PT. Semen Tonasa in the same period tends to increase and reaches its peak in 2022 with a RMS achievement of 3.99 times, while the RMS of Bag cement tends to decrease and reaches its lowest value in 2022 with an RMS achievement of 2.10 times. In 2020, the type of Bulk cement of PT. Semen Tonasa is in the Dogs quadrant, while Bag cement type of PT. Semen Tonasa is in the Stars quadrant. Furthermore, in 2021 the Bulk cement type of PT. Semen Tonasa is in the Cash Cows quadrant, while Bag cement type of PT. Semen Tonasa is in the Question Marks quadrant. Finally, in 2022, Bulk cement type of PT. Semen Tonasa is in the Stars quadrant, while Bag cement type of PT. Semen Tonasa is in the Dogs quadrant.

When the company is in the Stars quadrant, the company should operate in a fast-growing industry and maintains a high market share by conducting promotional strategies. Meanwhile, if the company is in the Question Marks quadrant, it needs a customer acquisition strategy. However, if the company is in the Cash Cows quadrant, it is recommended to implement loyalty programs in order to increase customer satisfaction. Finally, what does the company need when it is in the Dogs quadrant is to divest or rebrand product. In conclusion, the different quadrant in the strategic business unit (SBU) or in the BCG matrix requires a different business strategy.

## Acknowledgments

Research team is fully aware that this paper could be completed because of contributions from various parties. Therefore, the research team would like to thank the Director of Politeknik Negeri Ujung Pandang (State Polytechnic of Ujung Pandang) and the

PNUP Education Quality Assurance Development Centre (P3MP) for providing facilities so that this paper could be finalized timely and successfully.

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