

# Philippine Metalcasting Industry 2017: A Status Report

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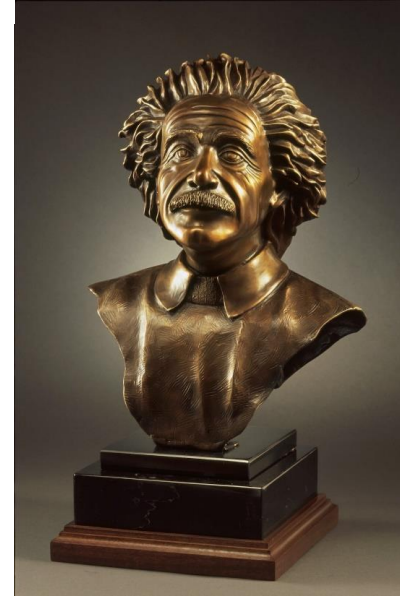
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# Introduction

- Casting is a method where solid material is dissolved, heated to a suitable temperature (generally treated to change its chemical structure), and is then added into a mold or cavity, which keeps it in a proper form during solidification. As a result, in just one step, complex or simple designs can be created from any material that can be dissolved. The end product can have nearly any setting the designer needs.



# Introduction

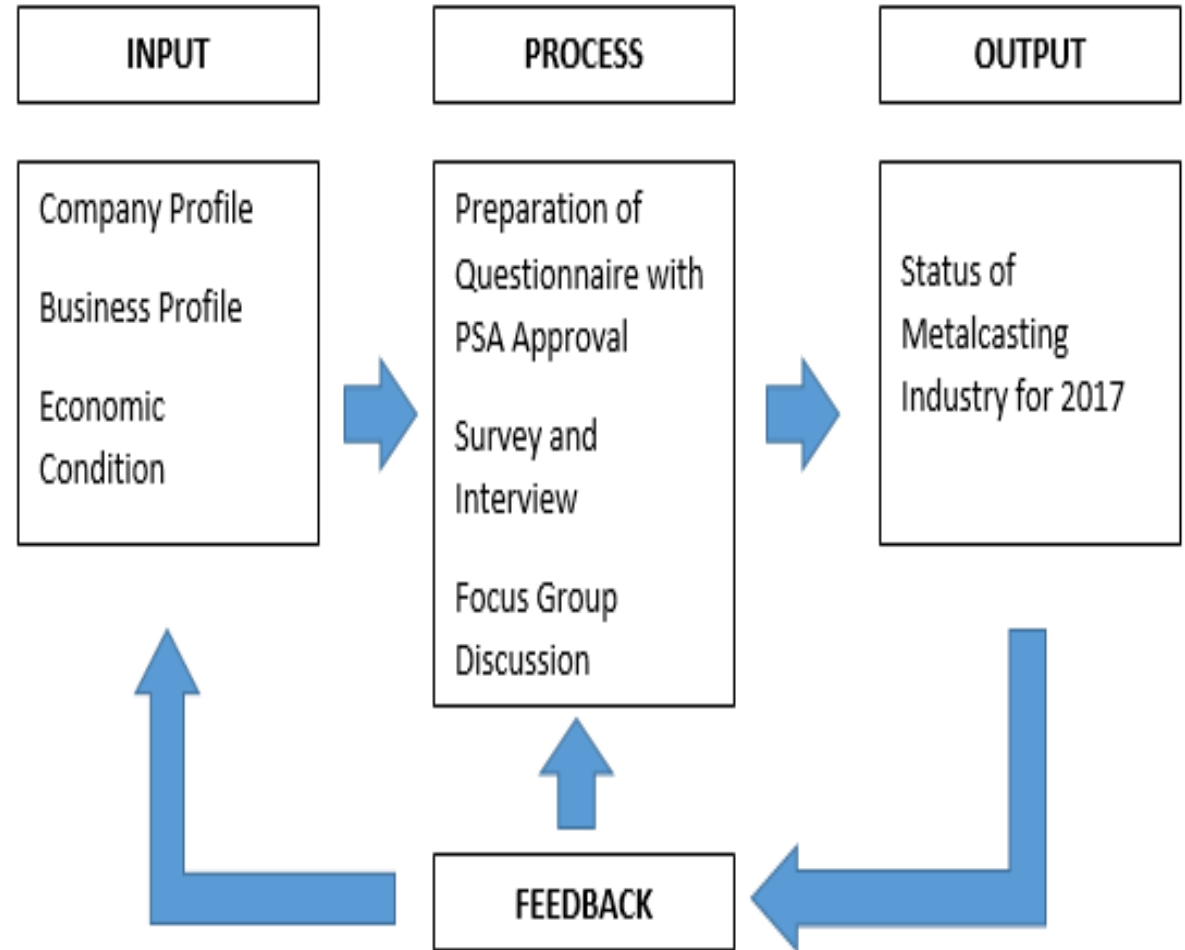
- The metalcasting industry plays a vital role in today's modern economy. The metalcasting industry is currently dominated by China, which produced 46.2 million metric tons in 2014 and this accounts for more than 40% of the global casting production while Germany leads the per-plant production with 8,818 metric tons per-plant output.
- The scale of production of the Philippine metalcasting industry is nowhere near the level of the current global players.
- In the 2003 study conducted by the Metals Industry Research and Development Center (MIRDC), 195 metalcasting companies were maintaining 295 foundries in the Philippines. Majority of the micro and small category metalcasting companies identified in 2003 are now closed due to bankruptcy, while some shifted to other industries. In 2012, the identified metalcasting companies decreased to 102, and in 2017, the year covered by this study, the number further drops to 85 metalcasting companies.

# Objective

This study aims to determine the status of the Philippine metalcasting industry for 2017. Specifically, it aims to:

1. Determine the business profile and classification of the metalcasting companies;
2. Identify the conditions of the metalcasting companies in terms of production, workforce, industries served, and raw material; and
3. Examine the business outlook, concerns, and problems of the existing metalcasting companies

# Conceptual Framework



# Method

- This study utilized a descriptive survey research method, which is often used to capture data from business organizations
- The survey questionnaire utilized in this study acquired a PSA Approval Number of MIRDC-1703 with expiration on 28 January 2018.
- The data gathering period was from April 1, 2017 to October 31, 2017.
- The MIRDC conducted the survey among 46 respondent metalcasting companies in 2017 from six (6) regions of the country.
- Additional inputs were also extracted from the FGD conducted on May 29, 2018.



# Economic Classification of Metalcasting Companies in 2017

Categories	Classification Based on Capitalization	Classification Based on Employment	Workforce Distribution Percentage
Micro	11%	7%	0.4%
Small	37%	59%	28.5%
Medium	37%	17%	31.0%
Large	15%	17%	40.1%
Total	100%	100%	100%

# Cost of Local Production of Metalcasting Companies in 2017

Categories	Average Annual Cost of Local Production in 2017	Percentage
Micro	P1,352,086.95	0.5%
Small	P6,825,796.43	2.4%
Medium	P49,048,883.10	17.5%
Large	<b>P223,557,500.00</b>	<b>79.6%</b>
Total	P280,784,266.48	100.0%
Mean	P61,400,429.41	21.9%

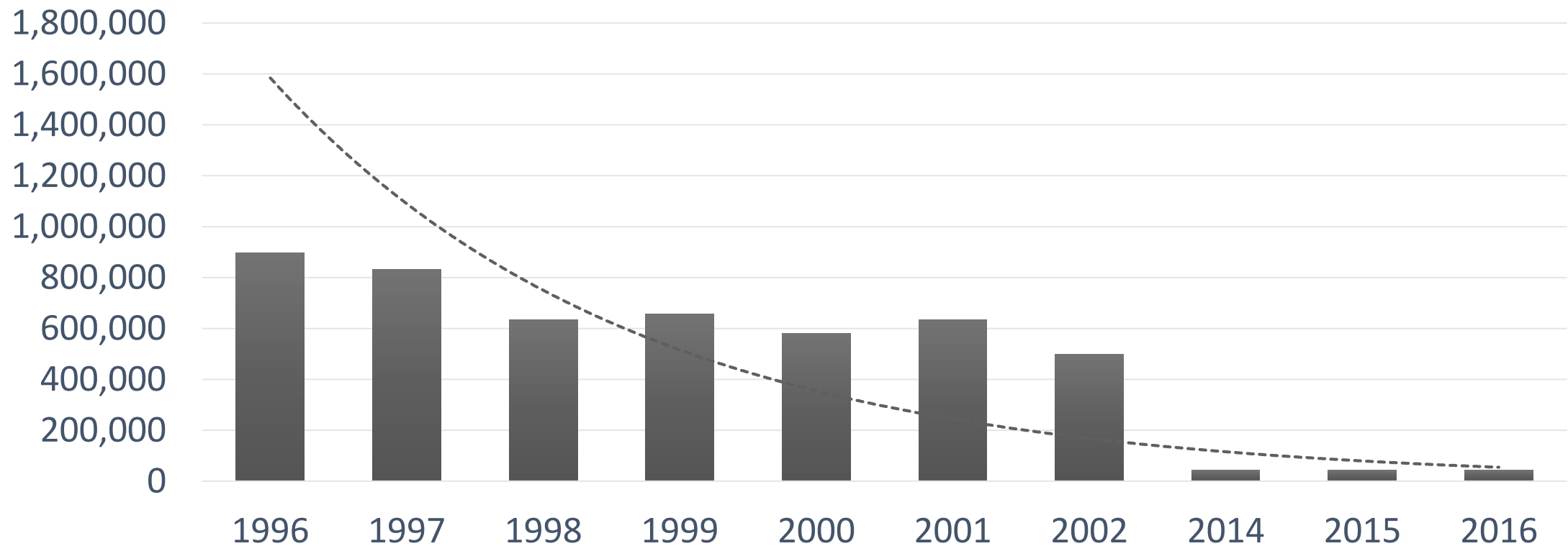
# Raw Materials Used by the Metalcasting Industry in 2017

Raw Materials	Quantity, in kgs
Silica Sand	111,153.26
Casting Coke	35,614.29
Green Sand	21,400.00
Reclaimed Sand	18,833.33
CO <sub>2</sub> and Other Gases	9,764.95
<b>Metals</b>	
Mild Steel Scrap	<b>367,780.00</b>
Aluminum	346,888.63
Pig Iron	242,833.33
Ductile Iron	78,000.00
Stainless Steel	45,730.00
Bronze	9,030.53



# Philippine Metalcasting Industry: Production Output Trend

Production Output (in Tons)



# Results and Discussions

- Demand for casting products is still high since they are viewed as the cheapest source of replaceable parts for industrial and agricultural machinery and equipment, automotive, construction machinery and equipment, metalworking, and cement and concrete works.
- They are present in 90% of all manufactured and durable goods and 100% of all manufactured machinery.

# Conclusions and Recommendations

- For micro and small metalcasting companies to survive and grow, they have to take all possible vantage points.
  - Location: Being near to the clients in need of cast products gave the advantage of delivering the product faster than any other sources resulting to lesser machine downtime for clients.
- For medium and large metalcasting companies, bringing down the cost of production might be futile if we look at inputs such as high energy and labor costs.
  - Energy Cost: Very high (Foundries are energy-intensive )
  - Labor: The Philippines is experiencing a downtrend concerning people who are willing to learn the art of metalcasting. There are limited foundries in the country for students and trainees to learn.

# Conclusions and Recommendations

- The micro and small metalcasting companies need all the assistance they can get to survive. Their primary concerns are:
  - access to financial resource
  - technology upgrade
  - compliance with product standards and regulations
- Department of Trade and Industries (DTI) should formulate an incentive program to make the metalcasting business profitable.
- Developing programs that will produce world-class and globally competitive metalcasters in the Philippines.
- Research can be conducted on the most energy efficient foundry procedure.

# Source

- Gonzales, A.P. (2018). Philippine Metalcasting Industry 2017: A Status Report. Philippine Metals, Vol 5, pp. 1-5, (ISSN) 0115-117. Metals Industry Research and Development Center. Philippines.