MANAGEMENT OF SUPPLY CHAIN IN FOUNDRY INDUSTRY
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Abstract:
The primary customer for castings in the world is the automotive industry, an industry that prides itself on well managed supply chains management (SCM). This Project investigates on the supply chain management of a medium scale foundry and how it works. Patterns, capital equipment, consumables all are needed to make the product which together makes the supply chain. SCM plays an essential role in the industry development, market survival, rate of production and the vibrant communication among the suppliers and customers. It has been met with increased recognition during the last decade both by academicians as well as practitioners. In today's highly competitive marketplace a successful winner is one who has the ability to satisfy the end customer requirement. Foundry which was selected for this purpose is a medium ferrous foundry setup located in Pollachi , Coimbatore southern part of India which is established in the year 1996, committed to high technology from the very start, produces grey iron from low tensile to high tensile strength grades, Ductile Iron - Pearlitic Ductile Iron to various ranges of Ferrite Ductile Irons. Foundry also specializes in the production range of automobile items like brake drums, Brackets, Transmission Hubs, flywheels, Manifolds, gear box housings, castings for tractor application, valve body assembly castings, motor and pump castings and compressor part castings.
Key Words: Supply chain management, Foundry, Strength Grades, Compressor

Introduction:
Supply chain management is the management of the flow of goods and services and includes all processes that transform raw materials into final products. It involves the active streamlining of a business's supply-side activities to maximize customer value and gain a competitive advantage in the marketplaceSupply chain management (SCM) represents an effort by suppliers to develop and implement supply chains that are as efficient and economical as possible. Supply chains cover everything from production to product development to the information systems needed to direct these undertakings

Idea of the Study:
- From this study Supply chain management of foundry for the past ten years.SCM is ultimately turns to be a key factor in market sustainability as it has a direct impact on the product produced, organization's profit percentage and customer relationship.
- The scope of this project involves Plus and minus of the practiced SCM will be the net output of this study from which new suggestions can be provided.

Objective of the Study:
- To study about raw materials purchased during 2011 to 2021
- To examine on total quantities product purchased
- To do the trend projection product purchased

Methodology:
Research Design:
Research design is the detailed plan of conducting a search study quantitative research method has been used in this study

Sampling Area:
The data has been collected from foundry industry in Pollachi Taluk

Sample Technique:
The data sample were gathered by direct interaction made with the executives of the organization, supportive documents provided by them and observation

Limitation of Study:
- Limited data's where only analysed due to limited time availability.
- Only major raw material and customers were covered due to vast range of materials and processes.
- Certain data's where kept confidential by the management.
- The data collected for the research is fully on primary data given by the department executives

Tools and Techniques Involved:
- Simple percentage analysis
- Chi square test

Period of Study:
The period of the study covers from March 2022 to April 2022.

Data Analysis:

Data was collected by the purchase executive for the purpose of data analysis and interpretation

Product Wise Purchases in Quantities (Ton):

Interpretation:

Majority of product purchased is Silica sand it totally 3685 ton during the period of 2011 to 2021 reasons for highly purchased of silica sand is demand of the core product. Minority of product purchased is Bentonite it totally 2490 ton during the period of 2011 to 2021 .this is because bentonite consumption percentage is low (0.5%)

Year Wise Purchases in Quantities (Ton) – 2011 to 2015:

	2011	2012	2013	2014	2015
Ms Punching	250	225	215	275	290
Silica Sand	300	350	300	270	300
Bentonite	150	200	250	250	200
Shell Coke	220	220	210	220	250
Gotoron	125	200	200	240	230
Innoculants & Alloy	350	340	240	230	320
Total	1395	1535	1415	1485	1590

Interpretation:

Majority of product purchased year is 2015. It totally 1590 ton purchased during the period of 2015 reason for highly purchased is demand for the product Minority of product purchased year is 2011. It totally 1395 ton purchased during the period of 2011 reason for average level purchased because demand of the product is low

Year Wise Purchases in Quantities (Ton) – 2016 to 2021:

	2016	2017	2018	2019	2020	2021
Ms Punching	250	350	270	240	240	330
Silica Sand	250	375	280	240	220	290
Bentonite	200	360	260	220	200	340
Shell Coke	210	350	250	250	240	290
Gotoron	190	370	290	250	250	280
Innoculants & Alloy	259	360	240	250	250	320
Total	1359	2165	1590	1450	1400	1850

Interpretation:

Majority of product purchased year is 2017. It totally 2165 ton purchased during the period of 2017reason for highly purchased is demand for the product. Minority of product purchased year is 2016. It totally 1359 ton purchased during the period of 2016 reason for average level purchased because order is low

Trend Projection Analysis:

	2022	2023	2024	2025	2026
Ms Punching	1450	1430	1110	1200	1000
Silica Sand	900	950	1000	980	880
Bentonite	750	660	790	800	640
Shell Coke	310	290	220	200	280
Gotoron	800	700	710	630	990
Innoculants & Alloy	300	250	290	240	220
Total	4510	4280	4120	4050	4010

Interpretation:

Majority of product purchased year is 2022. It totally 4510 ton purchased during the period of 2022 reason for highly purchased is demand for the product and target of the production is high. Minority of product purchased year is 2026. It totally 4010 ton purchased during the period of 2026 reason for average level purchased because target of the order is almost completed

Findings:

- Majority of product purchased is Silica sand (3685 ton) during the period of 2011 to 2021. The reasonfor high purchases is demand of the core product
- Majority of product purchased in the year is 2015(1590 ton). The reason for highly purchased is demand for the product
- Majority of product purchased year is 2017(2165 ton). The reason for highly purchased is demand for the product.
- Majority of product purchased year is 2022. (4510 ton). The reason for highly purchased is demand for the product and target of the production is high

Conclusion:

The existing SCM of the organization was found effective. Advancement of Stock keeping can be done to save time. Software can be implemented to reduce the work load. The supply chain management of the organization is found efficient with its flow.The Indian industry is yet to match the supply chain standards of developed countries and tremendous potential exists for national level integration of supply chains. The industry needs to focus on development of green technologies such as hybrid vehicles, low emission and fuel efficiency to meet futuristic, stringent norms, cost control throughout the automotive value chain (such as frugal engineering in the development of Tata Nano), enhance investments and efforts in R&D specially in auto component manufacturing sector and build up scale to enhance export.

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