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Reviewer 1

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Report
Author had made all corrections as i request. The manuscript can be publish as this current form

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Report
The request changes have been made. I appreciate the work of the author. The paper can be published

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MODELING A MANUFACTURING ENTERPRISE-A SYSTEMS APPROACH

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ABSTRACT

Understanding the context and problems of a manufacturing enterprise (ME) and its internal dynamics, primarily through modeling by its processes, operations, and activities. This paper attempts to provide indeepth understanding of the structure and internal mechanisms of ME that shape the overall dynamic behavior through system dynamics modeling. In this paper, we discuss the system dynamics model in detail and present the insights gained from running simulations. Before adopting a new policy, this model may be used to investigate alternative policy possibilities pertaining to decisions and can be used to forecast system behaviour and acquire insights using solid engineering and scientific concepts and approaches. The paper describes major influences in ME from a system perspective, problems inherent in production systems made clear because the modeling of causal loops introduce cross-departmental issues and promote process Integration. This model guides managers through a continuous improvement process relative to addressing physical, policy or paradigm constraints in their production system.

Keywords: System Dynamics, Manufacturing Enterprise, Causal Loop Diagram, Policy.

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1. INTRODUCTION

The present manufacturing Enterprises (ME) are challenged by intense global competition characterized by changing customer requirements. During the last decades, MEs in pursuit of cost reduction without compromising the quality is becoming an objective of researchers as well as practicing managers. The main reason for the investigation of manufacturing systems is to understand, analyze and control the non-linear behavior of its processes that will make more productive and predictive[1]. The intricate interrelationship among the system elements with stochastic nature. make the mathematical modeling quite challenging [2]. The challenge of

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Characterization of hybrid metal matrix aluminum with boron carbide and graphite

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Abstract

The importance of reinforced particle with aluminium metal matrix is to study and predict in the enhancement of mechanical properties like tensile and tribological property. Metal matrix composites (MMCs) constitute an important class of design and weight-efficient structural materials that are encouraging every sphere of engineering applications. There has been an increasing interest in composites containing low density and low cost reinforcements. With the increasing demand of light-weight materials in the emerging industrial applications, fabrication of aluminum-boron carbide with graphite composites is required. In this context aluminum - boron carbide with graphite composites were fabricated by stir casting with different particulate composition of B4C (5%, 10%).Microstructure analysis was done with scanning electron microscope. With the increase the amount of the boron carbide, the density of the composites decreased whereas the hardness is increased. The ultimate compressive strength of the composites was increased with increase in the weight percentage of the boron carbide in the composites.

Key words: **Aluminum alloy, Boron carbide, graphite, stir casting, SEM, Mechanical properties.**

Introduction

Metal Matrix Composites (MMCs) have emerged as an important class of materials and are increasingly utilized in various engineering applications, such as aerospace, marine, automobile and turbine compressor engineering, which require materials offering a combination of light weight with considerably accelerated mechanical and physical properties such as strength, toughness, stiffness and resistance to high temperature. Aluminum is the most frequently use matrix material due to its low density. Because of its extreme hardness and temperature resistant properties, B_4C, graphite are often used as reinforcement

S. Rama Rao.et.al (1) absorbed that the production of aluminium with boron carbide reinforcement material will improves the some mechanical properties like hardness, tensile strength.....etc. and the density is reduced. According to **Rohit Kumar et.al (2)**, the yield strength and tensile strength of the composites decrease with increasing the volume fraction of the B_4C particles, while the hardness of the composites increases with increasing the volume fraction of the B_4C particles so that impact strength increases with increase in volume fraction of reinforcement at a certain limit (upto10 %) after starts decreasing. **G.G. Sozhamannan et.al (3)** observed that production of Aluminium composite reinforced