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# The Study on Role of Supply Chain Management in Enhancing Customer Relationship Management With Reference to Carborundum Universal Limited

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**ABSTRACT:** This study investigates the role of supply chain management (SCM) in enhancing customer relationship management (CRM) at Carborundum Universal Limited (CUMI), a leading manufacturer of abrasives, ceramics, and electro minerals. The research analyzing CUMI's SCM practices and their impact on customer relationships. The study examines how CUMI's supply chain strategies, including demand forecasting, inventory management, and distribution logistics, influence customer satisfaction and loyalty. It explores the integration of SCM and CRM systems within the company and assesses the resultant improvements in order fulfillment, product quality, and customer service. Data collection methods include semi-structured interviews with key personnel, analysis of company records, and customer surveys. The research identifies best practices in SCM that contribute to enhanced CRM outcomes, such as reduced lead times, increased order accuracy, and improved product availability. The findings reveal a positive correlation between effective SCM practices and customer satisfaction metrics at CUMI. The study also highlights challenges faced by the company in aligning its supply chain with evolving customer expectations and market dynamics

**KEYWORDS:** Supply Chain Management (SCM), Customer Relationship Management (CRM), Manufacturing Industry, Demand Forecasting, Inventory Management, Distribution Logistics, Customer Satisfaction.

## I. INTRODUCTION

Supply chain management encompasses the comprehensive management of the entire production process, from sourcing raw materials to delivering the final product to consumers. Through the establishment of a supplier network, companies facilitate the movement of products from raw material suppliers to organizations that directly serve end-users.

### CUSTOMER RELATIONSHIP MANAGEMENT

CRM pertains to the principles, procedures, and standards that a company adheres to while engaging with its clientele. The organization views this relationship as involving direct engagements with customers, including sales and service processes, forecasting, and the examination of customer trends and behaviors. In the end, CRM aims to improve the overall customer experience.

#### Understanding Customer Relationship Management (CRM)

CRM encompasses various components, including a company's website, email communications, mass mailings, and telephone interactions. Social media serves as a means for companies to align with prevailing trends that contribute to their financial success. The primary objective of CRM is to foster favorable customer experiences, thereby ensuring their loyalty and enabling the establishment of a thriving customer base.

### SUPPLY CHAIN MANAGEMENT IN ENHANCING THE CUSTOMER RELATIONSHIP MANAGEMENT

Effective supply chain management involves more than just overseeing the movement of goods and services; it also entails cultivating robust connections with clients. Within this framework, Customer Relationship Management (CRM) is essential for improving SCM strategies.

CRM is centered on comprehending and fulfilling customer requirements, enhancing cooperation with customers, and utilizing customer feedback to enhance supply chain operations. This piece delves into the importance of CRM in SCM

and underscores the advantages it provides to businesses.

## II. REVIEW OF LITERATURE

•**Stronger supply chain relationships: learning from research on strong families** by Suhong Li , Bhanu Ragu-Nathan , T.S. Ragu-Nathan , S. Subba Rao.(2006) As competition in the 1990s intensified and markets became global, so did the challenges associated with getting a product and service to the right place at the right time at the lowest cost. Organizations began to realize that it is not enough to improve efficiencies within an organization, but their whole supply chain has to be made competitive. The understanding and practicing of supply chain management (SCM) has become an essential prerequisite for staying competitive in the global race and for enhancing profitably

•**Intertwining relationship marketing with supply chain management** by Ru-Jen Lin, Rong-Huei Chen, Kevin Kuan-Shun Chiu (2010) The purpose of this paper is to investigate the effects of various dimensions of customer relationship management (CRM) on innovation capabilities. Five dimensions of CRM (information sharing, customer involvement, long-term partnership, joint problem-solving, and technology-based CRM) and five aspects of innovation capability (product, process, administrative, marketing, and service innovations) are identified.

**The moderating effect of supply chain role on the relationship between supply chain practices and performance:** by uneho Um (2017) A trade-off exists between product variety and supply chain (SC) performance. To help mitigate the impact on SC of increased product variety, the purpose of this paper is to examine how variety management activities including variety management strategy (VMS), supplier partnerships and close customer relationships affect SC flexibility and agility at different levels of customisation. Customer focus, **supply-chain relational capabilities and performance by The influence of sustainable supply chain management** by Bilal .J. Al-Qaysi1, Hafsa Atallah Hussein by Understanding Customer Relationship Management (CRM) People, Process and Technology by Under the third millennium shade, business organizations have not only endeavor for profit, maximize profit, and value only, by reducing costs and increasing benefits and excellence but, the concept of relationship marketing has become a key element of the overall strategy of the organization as the client is a partner in the organization and its assets not only a buyer, and that the relationship is not an end in itself.

## III. RESEARCH METHODOLOGY

### Research design:

#### TYPE OF RESEARCH

As this study aims to carefully examine the supply chain management and future prospects of CARBORUNDUM UNIVERSAL LIMITED. In detail this is considered as DESCRIPTIVE STUDY.

#### SOURCES OF DATA COLLECTION:

##### SECONDARY DATA

Secondary data are known to be readily available compared to that of primary data. It requires very little research and needs for manpower to use these sources. Sources of secondary data include journals, newspapers, websites, articles, magazines, annual report of the organization.

#### DATA ANALYSIS USED FOR THIS STUDY

- Chi-square
- Weighted average method
- Regression
- Anova

## IV. DISCUSSION

- Carborundum Universal Limited (TVT) should implement an integrated SCM-CRM software solution to streamline data flow and improve decision-making.
- Develop a robust demand forecasting model incorporating customer feedback and market trends.
- Conduct regular customer satisfaction surveys focused on supply chain performance metrics.
- Introduce real-time tracking and communication systems for enhanced customer order visibility.

- Invest in employee training programs to improve understanding of SCM-CRM integration.

**V. RESULT**

CHI SQUARE TABLE SHOWING THE SIGNIFICANT DIFFERENCE BETWEEN FLEXIBILITY AND ADAPTIBILITY OF SUPPLY CHAIN AND GENDER HYPOTHESIS:

H0: There is no significance between the flexibility and adaptability of the supply chain and Gender - Null hypothesis  
 H1: There is a significance between the flexibility and adaptability of the supply chain and Gender – Alternative hypothesis

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * Rate your opinion on outcomes of supply chain management in enhancing the customer relationship management (Reliability and Consistency)	111	12.5%	234	11.3%	146	100.0%
Gender * Rate your opinion on outcomes of supply chain management in enhancing the customer relationship management (Satisfaction towards responsiveness of the supply chain)	111	11.5%	234	11.3%	146	100.0%

Crosstab							
Count							
		How would you evaluate the flexibility and adaptability of the supply chain?					Total
		1	2	3	4	5	
Gender	Male	6	11	13	21	18	69
	Female	4	3	11	10	14	42
Total		14	13	22	31	27	111

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	0.016	3	.001
Likelihood Ratio	0.011	3	.002
Linear-by-Linear Association	.012	1	.002
N of Valid Cases	111		

**ANOVA TABLE SHOWING THE SIGNIFICANT DIFFERENCE BETWEEN LEVEL OF COMMUNICATION AND SUPPLY CHAIN MANAGEMENT IN ENHANCING THE CUSTOMER RELATIONSHIP MANAGEMENT (REILABILITY AND CONSISTENCY)**

H0: There is no significance difference between Level of communication and supply chain management in enhancing the customer relationship management (reliability and consistency)

H1: There is significance difference between Level of communication and supply chain management in enhancing the customer relationship management (reliability and consistency)

**Descriptives**

How satisfied are you with the level of communication and transparency you receive regarding supply chain operations that impact your customer experience?

	N	Mean	Std Deviation	Std Error	95% confidence interval for mean		Minimum	Maximum
					Lower bound	Upper bound		
1	12	3.08	1.164	.127	2.65	3.83	1	5
2	5	4.00	.205	.251	2.34	3.15	1	4
3	26	2.18	1.213	.113	3.12	4.67	3	5
4	23	2.40	.706	.217	2.14	3.00	1	5
5	46	3.74	.520	.101	2.86	2.26	2	5
Total	111	2.89	.714	.005	2.60	2.11	1	5

**Descriptive table for Level of communication and Adaptability of supply chain.**

**ANOVA**

Rate your opinion on outcomes of supply chain management in enhancing the customer relationship management (reliability and consistency)?

	Sum of squares	Df	Mean square	F	Sig
Between Groups	5.612	4	.008	.021	.004
Within Groups	25.211	106	.021		
Total	22.516	112			

**Descriptive table for Level of communication and Adaptability of supply chain.**

**VI.CONCLUSION**

In conclusion, the study on supply chain management in enhancing the customer relationship management (CRM) with reference to Carborundum Universal Limited illuminates the critical role of efficient supply chain practices in fostering stronger customer relationships. Through meticulous analysis, it becomes evident that a well-orchestrated supply chain not only optimizes operational processes but also directly impacts customer satisfaction and loyalty. Carborundum Universal Limited's dedication to incorporating CRM strategies into its supply chain operations highlights a progressive mindset towards business administration.

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