

# Chapter 5

## Feasibility of Agricultural Supply Chain Management Strategies in Industry 4.0

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### ABSTRACT

*Supply chain management (SCM) is a crucial aspect of the global economy. It also plays a significant role in the agriculture sector. Key factors for success include liberalization of a 1.4 billion consumer market. India's industrial growth is largely driven by the manufacturing sector. However, the growth rate of the manufacturing sector could not be adequate for the requirement of an employable population. The service sector, which accounts for over half of India's GDP, has seen a high growth rate after liberalisation. Agribusiness supply chain management (SCM) involves managing relationships between businesses responsible for efficient production and supply of products to meet consumers' requirements. Government agencies are implementing legal reforms to encourage private investment in agricultural marketing infrastructure and promote coordinated supply chains and traceability. Industry 4.0, powered by big data, cloud computing, blockchain, IoT, AI, and machine learning, requires companies to rethink supply chain design, leading to faster, more efficient supply chains*

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## INTRODUCTION

### Background and Conceptual Description

*“Supply Chain Management (SCM) is the process of planning, implementing, and controlling the operations of the supply chain with the purpose to satisfy customer requirements as efficiently as possible.” (Oliver, 1982) Father of Supply Chain Management, Keith Oliver*

Introduced by Keith Oliver in 1982, SCM involves integrating and optimizing activities across the supply chain to achieve a competitive edge. It encompasses a holistic approach to managing relationships between firms, coordinating upstream and downstream flows of products, services, finances, and information. Effective SCM requires a customer-centric perspective, focusing on collaboration and efficiency among channel partners to create value and satisfaction at the point of delivery. This includes planning and managing sourcing, procurement, conversion, logistics, and coordination to ensure seamless execution. The importance of SCM increases manifold when the principles are experimented in the agricultural sector where perishability, bulkiness and seasonal aspects of the produce impact both the consumer market as well as the industry. To maintain and adhere to the quality in the produce, the timing of harvest to the point of consumption, also matters a lot where each practice in product movement generates carcinogenic elements (due to splitting of water regularly) and the gravity of situations worsens in the environment of poor awareness and education, in handling the same. In these circumstances, value addition, value creation and customer awareness are very much essential and for that sake, the government needs support of private industries and people, through certain policy reforms by which various opportunities for investment will come up and SCM of produce will transform itself to a new horizon. Along with technological advancements, the people who deal with those technologies must be empowered enough for dealing with agricultural produce, through continuous training, development and monitoring mechanisms. Public, Private, Partnership (PPP) with the support of Panchayat at the grassroot level will make our agricultural SCM more inclusive and valuable in near future for which, there is a great need of transformation through reform, transform and perform centric policy implementation practices where modern tools and techniques; notably called as industry 4.0 will be the future façade of agricultural SCM, that accounts for about 50 percent of the country's population dependent upon agriculture, for their livelihood and sources of income.

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