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Notice for the PhD Viva Voce Examination

Ms Twinkle Singh, Registration Number: 2170033, PhD Scholar at the School of Business and Management, CHRIST (Deemed to be University), Delhi NCR Campus will defend her PhD thesis at the public viva-voce examination on Saturday, 23 August 2025 at 10:30 am in the Conference Hall, 2nd Floor, A Block, CHRIST (Deemed to be University), Delhi NCR Off-Campus, Ghaziabad, Uttar Pradesh, 201003, India.

Title of the Thesis	:	**The Role of Big Data Analytics Capabilities in Supply Chain Management with Special Reference to the Healthcare Industry**
Discipline	:	**Management**
External Examiner - I	:	**Dr Maneesh Kant Arya** Professor Institute of Management Studies Devi Ahilya Vishwavidyalaya RNT Marg, Chhoti Gwaltoli Indore Madhya Pradesh - 452001
External Examiner - II	:	**Dr Sanjib Bhattacharji** Associate Professor SOIL School of Business Design, Institutional Area, IMT Manesar, Haryana – 122050
Supervisor	:	**Dr Jeanne Poulose M T** Associate Professor School of Business and Management CHRIST (Deemed to be University) Delhi NCR Off-Campus Ghaziabad, Uttar Pradesh Uttar Pradesh - 201003

The members of the Research Advisory Committee of the Scholar, the faculty members of the department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva-voce examination.

Registrar (Academics)

Place: Bengaluru
Date: 12 August 2025

ABSTRACT

Over the last decade the healthcare industry has become one of the largest industries to boost the economy, providing growth in terms of employment and revenue generation. However, the complexity of the healthcare supply chain is increasing with the unavailability of resources, increasing operational costs, highlighting the urgent need for more intelligent solutions like Big Data Analytics (BDA). BDA has emerged as a transforming tool for improving the efficiency of supply chain management and hospital performance. The study examines the role of big data analytics capabilities (BDAC) in supply chain management within the healthcare industry. Employing the PRISMA framework to systematically review the literature published between 2011 and 2024, a comprehensive search across multiple databases identified 286 relevant studies, which were meticulously analyzed through bibliometric techniques. The findings of the systematic literature review revealed the prominent theories, including the resource-based view (RBV), organization information processing theory (OIPT), and dynamic capability view (DCV). Based on the theoretical foundation, the conceptual framework was developed to examine the relationship between the determinants of BDAC, hospital supply chain indications, and their impact on hospital performance. The proposed conceptual model was empirically tested using survey data collected from 447 hospital managers. The analysis was carried out by using partial least squares-structural equation modelling (PLS-SEM) and Machine Learning. The findings of the study underscore that BDAC enhances operational flexibility, supply chain sustainability, and organizational revenue to improve the overall efficacy of organizational performance. The study further employs machine learning, and the output revealed that infrastructure flexibility and supply chain sustainability are the best predictors of hospital performance. This study contributes to the literature by validating the association between BDAC and organizational performance in the Indian healthcare industry.

Keywords: *Big Data Analytics Capabilities, Supply Chain Management, Healthcare Industry, Hospital Performance, Supply Chain Sustainability*

Publications:

1. **Singh, T.,** Poulose, J. & Sharma, V. Data-Driven Sustainability: Revolutionizing Hospital Supply Chains through Big Data Analytics. *Oper. Res. Forum* 6, 30 (2025). https://doi.org/10.1007/s43069-025-00425-0
2. **Singh, T.,** Poulose, J., Sharma, V. (2024). Harnessing the Power of Big Data Analytics to Transform Supply Chain Management. In: Poulose, J., Sharma, V., Maheshkar, C. (eds) Data-Driven Decision Making. Palgrave Macmillan, Singapore. https://doi.org/10.1007/978-981-97-2902-9_13