

# **Inventory and Quality Management: the Case of Dairy Industries**

**Lujain T. Jan, Jumana K. Alqurashi, Hanan H. Masood,  
Joud T. Alnounou, Leen E. Koshak, and Abdulaziz T. Almaktoom**  
Department of Operations and Information Management, Effat University  
PO Box 34689, Jeddah 21478, Kingdom of Saudi Arabia  
[lujan@effat.edu.sa](mailto:lujan@effat.edu.sa), [jualqurashi@effat.edu.sa](mailto:jualqurashi@effat.edu.sa), [hamasood@effat.edu.sa](mailto:hamasood@effat.edu.sa),  
[joalnounou@effat.edu.sa](mailto:joalnounou@effat.edu.sa), [lekoshak@effat.edu.sa](mailto:lekoshak@effat.edu.sa), [abalmaktoom@effatuniversity.edu.sa](mailto:abalmaktoom@effatuniversity.edu.sa)

## **Abstract**

Professional organizations are excelling through ensuring the long lasting efficient performance in their key functions. Inventory and quality management are essential aspects in any organization in order to achieve best performance and an optimum level of efficiency. This research presents a case study of a dairy products company in Jeddah, Saudi Arabia. This research investigates and analyzes the implementation of quality and inventory management techniques while considering vital factors such as dairy safety, ingredients handling, and hygiene. Techniques and tools such as lean management, six sigma, information sharing, and customization of ERP (Enterprise Resource Planning) software, are included in the study. In addition, the research study previews how these techniques are applied to unravel the framework in which lead the company to its place in the market today. The study highlights the importance of implementing the quality and inventory management philosophies in the business enterprise, especially in dairy industries. Results of the case study emphasize the importance of inventory and quality management techniques in contributing to the net profit growth of the dairy industry.

## **Keywords**

Inventory, ingredients handling, six sigma, Inventory management

## **Acknowledgements**

Authors would like to acknowledge Deanship of Graduate Studies and Scientific Research at Effat University for their efforts and support.

## **Biographies**

**Lujain T. Jan** is an undergraduate student in the Operations and Information Management department at Effat Collage of Business, Effat University, Jeddah, Saudi Arabia. She is interested in Operations Management, Quality Assurance, Project Management, and Supply Chain Management. She is a member of the IEOM society.

**Jumana K. Alqurashi** is an undergraduate student in the Human Resource Management department at Effat Collage of Business, Effat University, Jeddah, Saudi Arabia. She is interested in Operations Management and Human Resource Management and how both functions can affect each other as they both play critical parts in any business.

**Hanan H. Masood** is an undergraduate student majoring in finance at Effat University. She is interested in the relationship between finance and operations and how both functions can affect each other as they both play critical parts in any business.

**Joud T. Alnounou** is an undergraduate student majoring in Finance, College of Business. Her interest in Operation Management is how to relate her major with operations from budgeting, analyzing investment proposals, and more. Finance is one of the important functions for operation in businesses and how it's used in that matter.

**Leen E. Koshak** is an undergraduate student majoring in the Computer Science department at Effat College of Engineering, Effat University, Jeddah, Saudi Arabia. She is interested in the role that information technology plays in Operations Management. Computer science deals with problem solving and the optimization of systems in the business world.

**Abdulaziz T. Almaktoom** is an assistant professor in the Department of Operations and Information Management at Effat University, Jeddah, Saudi Arabia. He earned his PhD in Industrial Engineering from Wichita State University. Dr. Almaktoom is a certified supply chain analyst. He has published journal and conference papers and his research interests include supply chain management and logistics, optimization under uncertainty, reliability-based robust design optimization, resilience-based design optimization, and lean supply chain management. He is a member of IIE, IEOM, INFORMS, CSCMP, ASQ, ISCEA, and SME.