Impact of Avian Influenza in the Indian Poultry Industry: A Supply Chain Risk Perspective

Usha Mohan*, N. Viswanadham and Prachi Trikha

Centre for Global Logistics and Manufacturing Strategies, Indian School of Business, Hyderabad: 500032, INDIA
Fax: +91 40 23007012 E-mail: ushamohan69@gmail.com
Email: n_viswanadham@isb.edu
*Corresponding author

Abstract: In all the food supply chains around the world, the biggest risk that hits the supply chain is the procurement risk or the input risk i.e. contaminated or infected raw materials such as meat cattle infected with mad cow disease or from birds with flu etc. Due to the non availability of track and trace mechanisms, mass culling or killing happens when detected. Frequently, food products are sold before there is a realization of input contamination. Thus, in most food supply chains the biggest risk factor is the procurement risk more so because the downstream food processing and retailing activities are generally standardized with certified processes. The "avian influenza" or "bird flu" threat during early 2006 in India had resulted in losses to the tune of over INR 2200 crores to the Indian poultry industry. Realizing that this is more than a health care issue, we study the impact of the outbreak on entire poultry supply chain from a risk perspective. Even though the poultry industry in India is a success story, it is largely characterized by supply chain inefficiencies and inadequate infrastructure. This report aims to analyze the risks faced by the poultry supply chain in event of an epidemic. We investigate the impact of the bird flu on the poultry supply chain by identifying risk factors, the losses/gains and mitigation strategies used by different players in the supply chain. Our conjecture is that the integrity of supply chain partners in reporting to their respective upstream/downstream players of the outbreak of disease is a crucial factor which needs to be monitored closely thus improving visibility in the supply chain and making it more resilient.

Keywords: Poultry Supply Chain, Avian influenza, Supply Chain Risk Management, Risk trust hierarchy

Reference to this paper should be made as follows: Usha Mohan, N. Viswanadham and Prachi Trikha.. (xxxx) ‘The Impact of Avian Influenza on the Indian Poultry Chain: A Supply Chain Risk Perspective’, Int. J. Logistics Systems and Management, Vol. x, No. x, pp.xxx–xxx.

Biographical Notes: Usha Mohan is a currently a lecturer at Department of Mathematics and Statistics, University of Hyderabad. Previous to joining the University she was as researcher associated with Centre for
Global Logistics and Manufacturing Strategies (GLAMS) at the Indian School of Business. She has held teaching positions at the University of Hyderabad, India as visiting lecturer. As part of her post doctoral fellowship programme, she visited the Kellogg School of Management, Evanston, USA. Dr Mohan’s research interests include combinatorial optimization, mathematical programming, supply chain logistics and supply chain risk management. She has a PhD in Operations Research from the Indian Statistical Institute.

Professor N Viswanadham is the Executive Director of the Centre for Global Logistics and Manufacturing Strategies (GLAMS) at the Indian School of Business. Prior to joining the ISB, Professor Viswanadham had held several prestigious positions. He was the Deputy Executive Director of The Logistics Institute-Asia Pacific and also Professor in the Department of Mechanical and Production Engineering at the National University of Singapore. He was a GE Research Fellow, Tata Chemicals Chair Professor at the Indian Institute of Science, Bangalore and was also a faculty member at the Indian Institute of Science till 1998. He was the Chairman of the Department of Computer Science and Automation and the Division of Electrical Sciences at the Indian Institute of Science. Professor Viswanadham is a Fellow of a number of professional societies and academies such as the Institute for Electrical and Electronic Engineers (IEEE), Indian National Science Academy (INSA), Indian Academy of Sciences (IASC), Indian National Academy of Engineering (INAE), and the Third World Academy of Sciences (TWAS). Professor Viswanadham is on the Editorial Board of several international journals. Currently he is a Senior Editor of IEEE Transactions on Automation Sciences and Engineering.

Prachi Trikha is a consultant at Indian School of Business. She obtained her graduation in Microbiology and a gold medalist in MBA from Nagpur University. Presently doing her M Phil in Management. Prior to joining the ISB, she worked as a lecturer in Institute of Clinical Research, India.