

# Abstract

**Mr. Chehab Salah**

## **Investigating the Drivers and Barriers of Reverse Logistics Practices in the Supply Chain of Pharco Pharmaceuticals**

Reverse logistics can no longer be treated as an afterthought, especially for industries that are susceptible to product recall for products whose existence in market after their sell-by date can cause severe problems. One such industry is pharmaceuticals where it is very important to properly dispose of the recalled and expired drugs. This has legal implications as some of these products contain hazardous chemicals. Hence, pharmaceutical companies can no longer opt for effective implementation of reverse logistics. In Egypt, the problem related to reselling expired pharmaceuticals is increasing and it has raised the need for a proper management and disposal of pharmaceutical returns. In light of the above-mentioned problem, this empirical research investigates the reverse logistics practices adopted by "Pharco Pharmaceuticals," a pharmaceutical company in Egypt, the drivers behind the applied reverse logistics activities, and the barriers affecting the application of reverse logistics. A mixed approach has been followed: First, the case study helped to identify and understand the drivers for reverse logistics, the applied reverse logistics activities, and the faced barriers. Then, Interpretive Structural Modeling (ISM) has been applied to understand the mutual influences among the identified barriers which hinder Pharco in implementing reverse logistics. The research reveals that the implementation of reverse logistics at Pharco is regulation-driven and the main reasons for returns from its downstream partners are product expiration, followed by damaged packaging returns. The dominant reverse logistics activity is the disposal by incineration through third-party disposal companies. As many as 17 reverse logistics barriers are affecting Pharco in implementing reverse logistics and these barriers have been ranked into 10 levels by using the ISM method. The analysis also shows that eight dependent barriers are influenced by nine driving barriers. A key finding of the analysis is that lack of regulation enforcement and lack of public awareness regarding the importance of reverse logistics are the most driving barriers influencing the rest of the identified barriers.