

Logistics Value Quantification And Measurement

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1.0 INTRODUCTION

Previous research in logistics has focused on the development and implementation of performance measurement systems from an operational perspective. These internal measures are necessary to determine conformance with predetermined standards for both efficiency and effectiveness (Mentzer et.al., 1991). However, recent trends have shown that logistics performance measurements also need to reflect the impact of these internal measures on the financial performance of the firm (Novack et.al, 1995). Traditional logistics measurement systems are not designed to incorporate these impacts.

This manuscript provides a framework to assess the value and financial impact from the implementation of a shipment tracking and tracing system. This framework and resulting financial measures were developed from a case study involving a large multi-national computer manufacturing firm. All numbers, names, and geographic locations used in this manuscript are disguised.

2.0 CORPORATE PROFILE

Small Byte Computer Corporation (SBCC) is one the world's largest suppliers of desktop PCs, portable PCs and powerful servers that provide mid-range functionality for business wide applications. The company sells and supports its products in more than 100 countries. The global operations of the company employ about 17,000 people through more than 43 subsidiaries and other offices around the world. The company sales in 1996 were \$8.85 billion, with a net income of \$618 million. The corporation maintains a working capital of \$2.28 billion to run its operations.

The manufacturing centers of the company are located in Ireland, Hong Kong, Argentina, India, and the US. The company also outsources certain product lines to original equipment manufacturers (OEMs) like Pentech and Instep. Pentech (Japan) manufactures portable PCs, and Instep (Taiwan & Torrance, CA) supplies desktop PCs. In addition to these main centers, the company maintains distribution centers (DCs) in various locations around the world. With supplier and customer locations throughout the world, shipment tracking for SBCC becomes a value adding process for the logistics group. This responsibility belongs with the Transportation Group at SBCC.

3.0 WORLDWIDE TRANSPORTATION GROUP

Transit times on worldwide shipments can be long and inconsistent. Because invoice and payment flows can be influenced by delivery times, transportation can have a