

Idea Paper for DISS 890 Project Report:
A Strategic Plan for the Implementation of Electronic Commerce
at American Axle and Manufacturing

by

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A paper submitted in partial fulfillment of the requirements
for DISS 890

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Business-to-business electronic commerce is projected to grow at an annual rate of 41 percent over the next five years. The automotive industry, recognizing this fact, is making significant progress in the deployment of electronic commerce technologies. Unlike its Big 3 customers, American Axle and Manufacturing (AAM), a tier one supplier of automotive driveline systems, is taking a "wait and see" approach to electronic commerce. In response to AAM's lack of an e-commerce strategy, this project report idea paper was submitted for approval. The goal of the project report was to provide an executive summary that outlined the most effective business-to-business electronic commerce strategy for AAM to deploy over the next three years. In the following pages, the paper covered the five areas required for the approval of the project report. These included: problem statement and goal, relevance, barriers and issues, plan and approach, and milestones and expectations.

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Problem Statement and Goal

Electronic commerce (e-commerce) is the process of using digital technology as the medium for transmitting information between organizations. For most companies, it refers to the processes of buying and selling goods and services and the associated methods of electronic payment for those transactions. E-commerce is generally divided into two types: business-to-consumer (B2C) and business-to-business (B2B). While the B2C market has received the most publicity, the B2B market has a larger dollar volume and is growing faster (Editor, 1999).

The automotive industry, recognizing this fact, is making significant progress in the area of B2B e-commerce. Examples include the Automotive Industry Action Group's (AIAG) Automotive Network Exchange and Manufacturing Assembly Pilot. Other examples are GM's, Ford's, and DaimlerChrysler's use of trading partner web sites. Via secured access over the Internet, these sites provide automotive suppliers with business information that ranges from production schedules to quality statistics.

American Axle and Manufacturing (AAM), a tier one supplier of automotive driveline systems, is an important member of the automotive supply chain. AAM is headquartered in Detroit, Michigan and has five North American manufacturing facilities. The company's near-term plans include expansion in Europe, Asia, and South America. AAM employs more than 8,500 associates.

AAM's information technology (IT) infrastructure consists of more than 2,100 desktops (i.e. Windows NT workstations running older versions of MS Office and MS Exchange). In spite of its "e-commerce ready" infrastructure, the company's IT Plan is very traditional and calls for only limited e-commerce initiatives. AAM is taking a "wait and see" approach to e-commerce. This approach runs contrary to the fact that B2B e-commerce is projected to grow at an annual rate of 41 percent over the next five years according to the Yankee Group (Editor, 1999).

In response to AAM's lack of an e-commerce strategy and a clearly defined implementation plan, this project report idea paper is submitted for approval. The company has failed to identify e-commerce as a high-priority business initiative. This oversight will place the company at a competitive disadvantage in the future. Furthermore, the goal of the project report is to provide a concise (one to two page) executive summary. This summary will describe the benefits of expanding e-commerce at AAM. It will also outline the most effective B2B e-commerce strategy for AAM to deploy over the next three years. Implementation of this strategy will allow AAM to leverage "best of breed" e-commerce technologies to gain a competitive edge as a tier one automotive supplier.

Relevance

This project is relevant to e-commerce because key to its successful completion is the exploration and understanding of select areas of B2B e-commerce. Included are the following topics:

- Extranets and the Automotive Network Exchange
- Portals
- Supply Chain Integration
- E-commerce Enabled Procurement Systems

Extranets and the ANX

Companies are continuing to deploy extranets as a strategic tool to communicate with their customers and suppliers. According to an online survey conducted by InformationWeek Research, one in four businesses have created an extranet (Chabrows, 1998). These extranets give customers and suppliers access to internal company systems and applications over the Internet.

The automotive industry, realizing the value of extranets, launched the Automotive Network Exchange (ANX) in 1995. The ANX provides automotive trading partners with a single, secure network for e-commerce. It will eventually replace the redundant and costly multiple connections that currently exist throughout the automotive supply chain. The automotive industry expects the ANX to cut its costs by \$1 billion a year (Scott, 1998). The ANX could ultimately involve as many as 40,000 companies that have a stake in manufacturing, financing, and insuring cars and trucks.

Portals

While B2C Internet portal sites such as Yahoo, Netscape, Lycos, and Excite battle for consumer traffic, a growing number of businesses are adapting the portal model as an efficient way for employees, suppliers, and customers to locate critical information online. An important benefit of a portal system is the organized access it gives users to a variety of information. By combining powerful search technology, recognizable topic hierarchies, and personalized desktops, companies are able to use portals to transform their disorganized intranets into easily understood self-service environments (Walker 1999).

For example, Emery Worldwide (an automotive logistics supplier) is building an enterprise portal using ReportMart software from Scribe Technologies. Once complete, the portal will give Emery's several thousand employees organized access to logistical data, financial reports, customer data, and internal information (Wilder, 1999). Another indication of the growth of B2B portals is Harbinger's (an automotive e-commerce supplier) launch of an Internet portal. The site provides information about electronic commerce, offers service help to customers, and lets companies do business with each other over the Internet (Kanell, 1999).

Supply Chain Integration

Last year, the AIAG completed the Manufacturing Assembly Pilot (MAP) project. The object of MAP was to improve the quality and speed of information flowing down the supply chain. The project demonstrated that (in an "agile" supply chain) information must be able to flow from the OEM to the last supplier in the chain without being truncated or distorted at any tier along the way (Hoy, 1998). In the study, EDI was the primary method employed, and e-mail was used for ancillary communications.

One example of the automotive industry's commitment to an integrated supply chain is DaimlerChrysler's linking of its private Supply Partners Information Network to the Internet. This connection allows buyers and engineers to share design and other data with important suppliers. Another example is Ford's plan to connect 15,000 dealers worldwide via its FocalPt network for supporting the sale and service of cars. Ford's goal is to provide fully integrated automobile life-cycle support (Bayles, 1998).

E-commerce Enabled Procurement Systems

In an effort to cut millions of dollars from the cost of purchasing activities, the automotive industry is beginning to implement procurement solutions that use open standards-based supplier managed catalogs (Warner, 1998). Ford and DaimlerChrysler are implementing this type of Internet-based procurement system. At the heart of these systems are multi-vendor catalogs that allow buyers to quickly find the items they need. The catalogs reduce cycle time and eliminate order-processing errors. They also result in cost and productivity savings for both buyers and suppliers.

One example of a web-based multi-vendor catalog is the product offered by TPN Register (Avery, 1998). TPN Register is a joint venture of Thomas Publishing Company and GE Information Services. The company recently released its Content Management Services suite. This product suite enables corporate buyers and their suppliers to easily create and maintain "virtual private" catalogs. These catalogs are hosted by TPN Register and accessed over the Internet via a buyer's corporate intranet.

Barriers and Issues

In order to remain competitive as a tier one automotive supplier, AAM must effectively deploy e-commerce technology. This task is complicated by the rapid change occurring in the area of B2B e-commerce applications. In spite of this barrier, AAM must develop a strategy that identifies the most effective e-commerce technologies. The company must also have a plan detailing when these applications will be deployed. The project report will begin this planning process by performing a thorough investigation of select e-commerce technologies. This information will be used to outline the most effective B2B e-commerce strategy for AAM to deploy over the next three years.

Plan and Approach

The project report will be a descriptive study formatted as follows:

- Title Page
- Table of Contents
- Abstract
- Chapters
 - I. Introduction
 - Problem Statement and Goal
 - Relevance
 - Barriers and Issues
 - II. Review of Literature
 - Extranets and the ANX
 - Intranet and Extranet Portals
 - Supply Chain Integration
 - Intranet-based Procurement Systems
 - III. Project Design
 - IV. Results
 - Executive Summary
 - V. Conclusions and recommendations
- Reference List

Included in the fourth chapter will be a one or two page executive summary. This summary will outline a strategic plan for the implementation of B2B e-commerce technology at AAM.

Milestones and Expectations

Listed below are project milestones along with their planned completion dates:

1. Idea Paper Submitted	4/14/99
2. Idea Paper Approved	4/18/99
3. Chapter 1 - Introduction Completed	5/02/99
4. Chapter 2 - Literature Review Completed	5/16/99
5. Project Proposal Submitted	5/30/99
6. Chapter 3 - Project Design Completed	6/13/99
7. Chapter 4 - Results Completed	6/27/99
8. Executive Summary Completed	7/11/99
9. Project Report Submitted	7/31/99

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