



LOGISTICAL EFFICIENCY UNDERLIES AGRIBUSINESS SUCCESS

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INTRODUCTION

Agribusiness firms are continually faced with the moving, handling, processing, and storage of products from producer to consumer. The coordination, planning, and implementation of such activities are likewise integral to the ultimate success and survival of the firm. Activities such as these generally referred to as "logistics," represent a sizable portion of the total price for most agricultural products. In a recent article in the trade magazine *The Private Carrier*, Data Resources, Inc., estimated that in paper, furniture, food, chemicals, and lumber, logistics related costs represented over 20 percent of the delivered product price. Hence, by minimizing such costs there exists an opportunity to obtain a competitive advantage. The principal means of controlling logistics activities and insuring efficient, cost-effective operation requires understanding the important issues emerging in logistic operations. To this end, this paper first reviews logistic goals and performance criteria, and then discusses current issues affecting the achievement of such goals.

Logistic Goals

In the simplest terms, most businesses purchase inputs in some form or fashion, transform or alter them in some way, and then sell the transformed product as output. Thus, two principal product flows are apparent as inbound and outbound movements. While individual aspects concerning the timing, form, and manner of coordinating these product movements may differ for different

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types of businesses, there are fundamental standards that all businesses engaged in this type of activity consider.

For both types of product movements, dependable, accurate, error free, logistic service is essential to the successful coordination of any agribusiness operation. Regardless of whether the logistics of inbound and outbound product movements are controlled within the company or contracted to an outside party, service and performance are critical. Service that is subject to frequent delays and scheduling problems is unacceptable in the current business environment. Likewise, products must be transported free of damage or injury on a consistent basis. Providing this type of service, while controlling cost, is the primary goal for logistics and agribusiness managers. Several avenues for achieving these types of goals have recently been discussed in the literature. While no single strategy will fit the needs for all agribusinesses, certain issues dominate the discussion as to what would be included in a strategy.

CURRENT ISSUES

Safety

Safety is one of the emerging "musts" in logistics operations. With the growing public concern over transportation of hazardous materials and increased state and federal regulation requirements, safety programs must address these concerns. A recent article in *The Private Carrier*, Lend Lease, Inc., writes about the safety program implemented by one of their clients, Liquid Air Corporation. The safety program developed for this company was designed to meet all government requirements for driver certification, testing and education, and also provided driver incentives for highway safety performance. In addition, the company updated the equipment maintenance facilities in order to keep safe, reliable equipment operating efficiently. All drivers are now required to pass the

Commercial Driver License exam, which tests both skill and knowledge. In addition, companies that transport hazardous materials are required to implement a Controlled Substance testing program for employees. Safety seminars dealing with driver training, handling instructions and regulation changes also update drivers on safety issues.

The incentive for developing and implementing a solid safety program extends beyond the gains in efficiency, thus profits. Safety programs often facilitate successful Department of Transportation safety reviews since most safety programs maintain safety related records. Thus, between government compliance and potential profits, developing an effective, solid safety program is productive.

Quality

The emphasis on quality has historically been placed on the end product with only casual concern for the production process. However, today's agribusiness managers must understand the importance of integrating quality standards into all aspects of the business operation. This has resulted in the phrase "Total Quality Management" as a characterization of the logistics and general manager's goal. The impetus for implementing a quality program resulted from the interrelated benefits associated with service, performance, and customer satisfaction. The critical question then is how to define "quality" and determine a list of priorities or goals.

Conceptually, the term "quality" can be applied to any measure of logistics service for performance. The ultimate goal, however, is customer satisfaction. Given the subjective nature of the term quality, measurement of quality programs is sometimes difficult. However, some examples of commonly measured quality variables which are less subjective include: (1) on-time pickups and deliveries, (2) order cycle time, (3) error free transactions, (4) goods delivered free of damage, (5) equipment availability, and (6) accurate billing. Many other possible variables measuring customer satisfaction could also be included, depending on the nature of the specific business. The important point, however, is that quality measures should be specifically defined and prioritized for each business. Once determined, quality measures can then be monitored and evaluated to determine the success of implemented quality programs.

Several key considerations are often mentioned when devising a successful total quality management program. Richard D. Armstrong argues in a recent article in *The Private Carrier* that the single most important requirement for successful implementation of quality programs is the support by top managers. If the top managers are enthusiastic and fully supportive of the quality program, then its chances of success are greatly increased. It is also important to begin a quality program that is easily implemented with benefits quickly noticed, thereby reinforcing belief in the program. Eventually, however, defining and achieving a long-term commitment to quality is necessary.

Successful quality programs coincide with overall successful business operations. Specifically, by increasing quality in every aspect of operation, efficiencies are gained, customers satisfied, market share obtained, and profits elevated.

Environmental

In addition to the business related activities involving the coordination and control of products from producers to consumers, logistics managers must also consider the intervening presence of the government. More important for the logistics and transportation industry is the ever-growing presence of government regulating and influencing the way it operates. Regulation by state and federal agencies influences logistics activities in several different forms, but the growing emphasis involves environmental concerns.

A recent study from *Transport Topics* estimated that environmental cost for the trucking industry will increase from \$1 billion to \$12 billion by the year 2000. This represents a sizable increase in costs associated with environmental compliance. In addition, the understanding and interpretation of added legislation is becoming increasingly difficult as the range of regulated issues becomes broader. In addition to past state and federal legislation covering air pollution, water pollution, and transport of hazardous materials, new legislation is resulting in regulation involving oil and tire recycling, and more stringent requirements involving acceptable routes for transporting hazardous materials.

The primary strategy for dealing with changes in environmental regulation is information and

education. The largest risk will likely be the fines and penalties assessed companies in violation of government regulation, costs that could be quite large under certain circumstances. In addition, since ignorance is rarely accepted as a legitimate excuse for failure to comply, information and education are critical to the success of any logistics operations.

One useful strategy is to develop an environmental program, much the same as a safety or quality program. The environmental program need not be as complex and can simply consist of a small staff or assigned personnel whose primary responsibilities are staying abreast of current regulations associated with all business activities and informing all employees. The necessity for environmental compliance is not derived from gains in efficiencies or profits, but rather a simple fact of doing business.

Information and Technology

One of the current opportunities for realizing a competitive advantage is from the information and technological capabilities emerging in logistics operations. Information facilitates practically all areas of management, including implementation and measuring the performance of safety, quality, and environmental programs. The key to information accessibility is technology. Logistics operators today have a wide variety of technologies available for many different types of information and control enhancements.

One broad category of coming information technology is called Intelligent Vehicle Highway Systems (IVHS) that provides communication, vehicle identification, warning and control systems, prompt operations information, driver and dispatcher correspondence, route guidance, and monitoring systems. Given this type of information capability, the potential management

uses are numerous. Communication between truck drivers and dispatchers helps avoid delays and scheduling problems, as well as providing up-to-the-minute information on driving conditions, weather, traffic, highway construction information, and detours. Vehicle identification would facilitate easier compliance at weigh stations by identifying and inspecting individual trucks without stopping the vehicle. Performance information is also available to drivers and managers to help assess such measures as fuel efficiency and truck performance.

The degree to which technology is embodied and applied in daily business activities will depend largely on the company and the characteristics associated with it. Certainly, larger companies will be able to take advantage of the economies of size by spreading the cost of investing in new technology across more production units. Smaller companies may have trouble justifying the large initial cost of advanced technology and its application to logistics operations as essential for all successful logistics management.

Conclusion

The shape of the transportation and logistics industry is changing rapidly; hence, any agribusinesses involved with these activities changes as well. The result is increased demand for information and education concerning issues affecting these types of businesses. We have mentioned and discussed the more current and popular issues confronting logistics operations in an attempt to help managers prepare for the future.

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