

# Chapter 21

## Information System for Logistics and Distribution Management

**José Rascão**

*Polytechnic Institute of Setúbal, Portugal*

### ABSTRACT

*This article aims to design an Information System for Logistics and Distribution Management, albeit an incomplete one. It seeks to define the key performance indicators (financial, time, productivity and quality of services) as an innovative approach to information management, stemming from the understanding of the physical, financial and information flows related to the Logistics and Distribution activities in which the organizations operate, whether they are carried out in the for-profit or nonprofit sector. In this sense, some conceptual clarifications become necessary and are presented in this chapter. The term information unit / business unit, although widespread in management literature, is not defined by consensus. Guinchat and Menou (1994, p.337) use the term to refer to sectors of businesses whose mission is “to identify, as accurately as possible, information that may be useful to decision-makers (top, coordination and operational) in support decision-making.” Logistics and Distribution cannot manage without information on applications / products by and for customers, and their relationship with information management, in Information Science. The structure of the article summarizes existing academic work, seeking to generate new knowledge. It presents information to support decision-making in an integrated and independent way of support-technology.*

### INTRODUCTION

There have always existed organization and structuring procedures of information associated with the production processes and conservation of the said procedures, either naturally or spontaneously. Millennial empirical practices of production, processing, storage, distribution and use of information have become increasingly complex requiring reflection and study, and as such gave rise to Information Science.

DOI: 10.4018/978-1-5225-0973-8.ch021

The technicality component that has been at the base of the organization and retrieval of information should be questioned in light of a new scientific paradigm, integrating such operations by means of a holistic approach that facilitates easy access to information. This work intends to shed light on the concept of Information System for the management of organizations, in both epistemological ontological terms, regardless of supporting technology, thereby contributing to a solid basis for discussion of this concept.

In a global economy, information and knowledge are the greatest competitive advantages that organizations can have (Thomas Davenport & Laurence Prusak, 1998, p. 13). In recent years we have witnessed a remarkable transformation in society, that is, we have moved from a society based on industry and transport into a knowledge-based one.

One major challenge for management is to understand what information means: how to manage and interpret it and what decisions it allows to make in an era of world-wide communications, since information is the link that unites us. By being able to transmit large quantities of data quickly across continents, we transform the world into a global metropolis.

Another challenge facing managers is the wealth of information in today's society, whose most obvious distress signal in this kind of society is the combination of the production of large amounts of information, the intensive use of information technologies and communication, and the continuous learning process. The articulation of these three aspects suggests that the information society quickly transitioned into the society of knowledge. The symbolic culture of this society requires new types of learning, organization and management and, therefore, also one for information management.

In the information and knowledge society there are several hierarchical levels or progressive stages directly related to the learning process of this knowledge. Thus, we can distinguish three stages: data, information, and knowledge. The messenger on foot or on horseback gave way to the highways of information. So, what is information all about, then? Whatever resource may become valuable to be compiled, saved, duplicated, sold, stolen and even sometimes, a motive for of murder.

Many people in organizations spend their workday gathering, studying and processing information. Some industries have been developing on the basis of the information resource to produce technology (process technology - the computer, product technology - software and communication technology - communications equipment + software) in order to collect, store, process, transmit and easily access information.

Managers cannot open a newspaper without being confronted to the term "information." Countless books contain the word "information." Lots of people in organizations perform activities related to the word "information". It seems easy to describe what it consists of. However, when we start thinking about the term "information", we experience some difficulty in finding the appropriate definition. Partly due to the fact that managers are failing to understand the information because they are so used to dealing with it day in day out that are not aware of the complexities involved. Managers only realize difficulties when they are confronted to a new language. The potential for misinterpretation is always present.

Given the vital role communication plays within organizations, those involved in decision-making must find ways to minimize the likelihood of error. To do this end, it is necessary to understand how communication unfolds - how information is transmitted from person to person, from computer to computer, and between people and computers. The need to understand information - what it is and how it flows - is not just limited to large organizations. Whenever a person communicates with another, we have a flow of information since communication is a means to provide information to others. Although used with much interchangeable frequency, the terms "information" and "knowledge" do not mean the same. As

39 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:  
[www.igi-global.com/chapter/information-system-for-logistics-and-distribution-management/166819](http://www.igi-global.com/chapter/information-system-for-logistics-and-distribution-management/166819)

## Related Content

---

### Enhanced Twofold-LDA Model for Aspect Discovery and Sentiment Classification

Nicola Burns, Yaxin Bi, Hui Wang and Terry Anderson (2019). *International Journal of Knowledge-Based Organizations* (pp. 1-20).

[www.irma-international.org/article/enhanced-twofold-lda-model-for-aspect-discovery-and-sentiment-classification/237150](http://www.irma-international.org/article/enhanced-twofold-lda-model-for-aspect-discovery-and-sentiment-classification/237150)

### Fuzzy Multiple Criteria Workflow Robustness and Resiliency Modeling with Petri Nets

Madjid Tavana, Timothy E. Busch and Eleanor L. Davis (2013). *Intelligence Methods and Systems Advancements for Knowledge-Based Business* (pp. 192-211).

[www.irma-international.org/chapter/fuzzy-multiple-criteria-workflow-robustness/67724](http://www.irma-international.org/chapter/fuzzy-multiple-criteria-workflow-robustness/67724)

### Using Blockchain to Ensure Supply Chain Traceability

Pedro Azevedo, Jorge Vareda Gomes and Mario Romão (2023). *Effective AI, Blockchain, and E-Governance Applications for Knowledge Discovery and Management* (pp. 268-288).

[www.irma-international.org/chapter/using-blockchain-to-ensure-supply-chain-traceability/331241](http://www.irma-international.org/chapter/using-blockchain-to-ensure-supply-chain-traceability/331241)

### Knowledge Management and Entrepreneurship: A Contradictory Recipe

Cesar Bandera, Michael R. Bartolacci and Katia Passerini (2016). *International Journal of Knowledge Management* (pp. 1-14).

[www.irma-international.org/article/knowledge-management-and-entrepreneurship/172490](http://www.irma-international.org/article/knowledge-management-and-entrepreneurship/172490)

### Evaluating Knowledge Management Practices in Higher Education Institutions (HEIs): Towards KMPro Framework Guidelines

Fahmi Ibrahim and Diyana Najwa Ali (2021). *Enhancing Academic Research and Higher Education With Knowledge Management Principles* (pp. 221-245).

[www.irma-international.org/chapter/evaluating-knowledge-management-practices-in-higher-education-institutions-heis/271019](http://www.irma-international.org/chapter/evaluating-knowledge-management-practices-in-higher-education-institutions-heis/271019)