

Enterprise Knowledge Management Through Logistics

Summary

Context. It is all about context. For knowledge to be applied effectively, the right knowledge needs to be presented at the right time in the right place to the right people in the right condition. This requirement means that the flow of information within and between organisation, and the operation and management of knowledge workers, is nothing more than the management of logistics chains. For logistics chains to operate successfully information needs to be in context and context is given by integrating information to work-flow and through managing the relationships between elements of information. Furthermore, the approach of integrating information management with process not only makes Information Communication Technology (ICT) the assembly line for knowledge workers but leverages all the benefits of standardised process for routine transaction processing.

1 Introduction

Context. It is all about context. With a recognition of the significance of context (work-flow and information relationships), the reason for shortcomings in enterprise knowledge management activities and in business operations can be seen. The linking of data to work-flow and process, means the flow of information can be defined as a logistics management operation. The need to deliver information to multiple users, across different devices, and to share across diverse organisations, makes enterprise knowledge management a logistics exercise. Logistics is a core business competency.

2 Data – Wisdom Conversion

Whether it is an annual report, a balance sheet or a record in a database, all of these are data. Only when you need it and can understand it does data become information. With experience and skills, information becomes knowledge, which is then applied in the right way at the right time to become wisdom (power / profit), Figure 1.

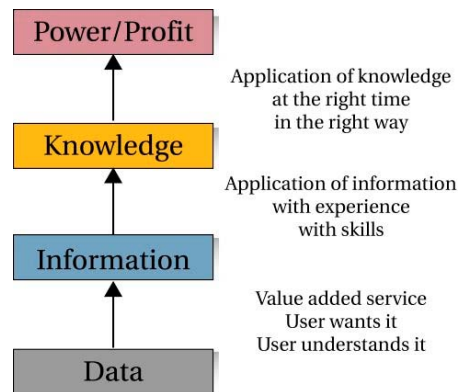


Figure 1. Data – Wisdom value stack.

The familiar example is a hall porter, who by putting a favourite wine in a hotel room collects a reward. The hall porter takes the data elements (arrival at that hotel, to the appropriate room, at that correct time and with the wine) and because the elements are required and understood they became information. Context is given to the information (managing the relationships between pieces of information and used with work-flow) to achieve knowledge, which is then applied at the right time in the right way to realise a profit.

A review of how a hall porter makes a profit provides a clear insight into addressing enterprise knowledge management and specifically:

- Knowledge can be readily provided to users when work-flow and the relationships between elements of information are managed to provide context.
- Knowledge management activities need to be integrated with and aligned to business processes and business process re-engineering.
- Without adequately addressing data management, effective and efficient knowledge management is not readily achieved.
- Common access to different types of information (documents, spatial data, database data and transactional data) is required and that these different data

types are all drawn together to realise knowledge.

- Information needs to be single sourced, i.e. duplicate or competing dates for the arrival information should not exist.
- Information is readily accessible and can be easily used, i.e. all of the quality issues resolved and it delivered to the user when required.

Of all these principles, the critical element to the discussion is that of providing context through the use of work-flow and relationships between pieces of information.

3 Role of Logistics in Business

Whether a business is manufacturing, retail, wholesale, extraction or services, business operations require that the right items are delivered in the right quantities at the right time to the right place in the right condition and all at the right price. For businesses to successfully operate, two logistics chains are required (Figure 2):

- Physical Chain - the physical moving of items.
- Support Chain - the supporting chain of information necessary for the Physical Chain to operate.

Successful logistics underpin many business operations and the performance of the Physical Chain relies upon the effectiveness and efficiency of the Support Chain. Customer complaints are seldom about the product, they are invariably about the level of service provided, e.g. wrong quantities, billing queries or stock not arriving as promised.

To grow market share and to lower costs, businesses invest considerably in their logistics chain and in ways to optimise their operations. Whilst much effort has gone into the Physical Chain, e.g. warehouse optimisation, considerable scope and opportunity for improvement still exists within the Support Chain. Key to this optimisation is a resolution of the information flow and the effective and efficient sharing of information in the Support Chain, e.g. directly sharing information between backend systems to allow customer orders to directly appear and to be filled within days.

4 Knowledge Logistics

Many business operations rely heavily on knowledge workers. Knowledge workers take information from different areas, collate it and present it back to clients. Whether it is an insurance application, making a payment, trading shares or managing a property; much of business and particularly that of knowledge workers is routine transaction processing. Standard processes exist with a need for the right information to be presented at the right time, i.e. standard recipes exist.

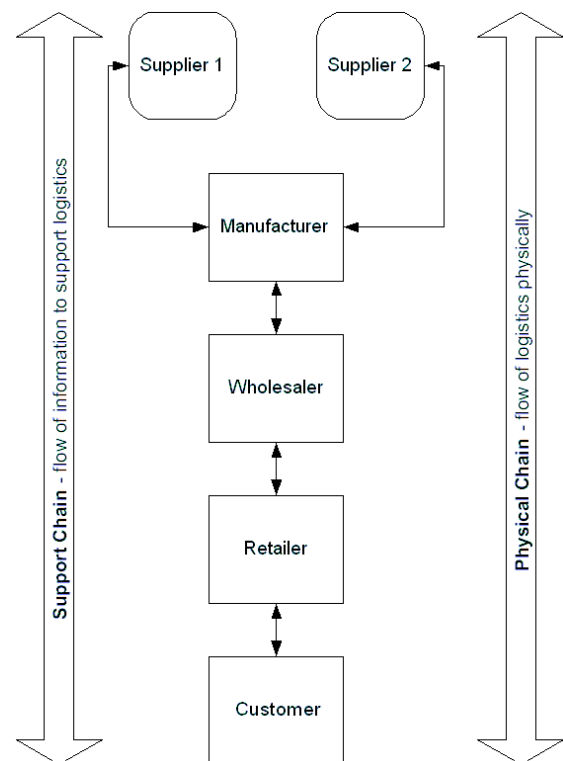


Figure 2. The Physical Chain and the Support Chain for logistics.

Much of the routine transaction processing follows standard recipes and information communication technology (ICT) becomes the assembly line for knowledge workers. The right information needs to be presented at the right time in the right place to the right people in the right condition; i.e. knowledge worker operations are a logistics operation.

Instead of items being moved in a logistics operation, knowledge workers move information as part of a work-flow, i.e. knowledge worker operations are a logistics

operation. For knowledge workers, the Physical Chain is replaced by the Information Chain and to enable the information logistics, a Support Chain of supporting information (information relationships tied to work-flow) is still required, Figure 3.

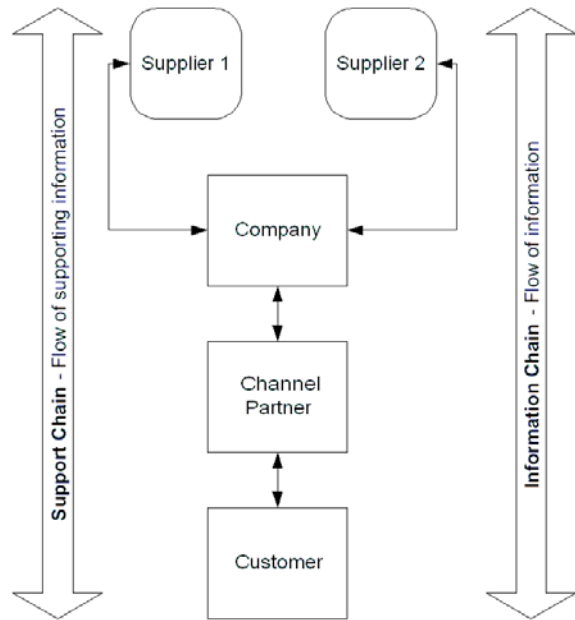


Figure 3. The Information Chain and Support Chain for knowledge worker operations.

The parallel between a physical logistics chain and that of the knowledge workers is illustrated in Table I, where typical business scenarios encountered are illustrated with a corresponding impact upon the customer.

The logistics approach to enterprise knowledge management has many advantages including:

- Security - An identification of who needs what access to information is established, meaning that information access can be properly controlled.
- Useability - The information required at a given stage of the process only is presented, making it easier for the user.
- Performance - The end user is freed up from needing advanced information management skills, thereby assuring efficiency and effectiveness of operation.
- Cross-platform – Allows for ease of use across differing platforms; i.e. supports evolving mobile business.
- Established Framework – The approach provides a ready framework and solution for managing knowledge, optimising business operations and aligning ICT to meet business needs.
- Proven Management – The concepts behind the approach are proven, are widely known within business and can be readily applied.
- Executive Support – In contrast to many other knowledge management approaches, the logistics model for knowledge management and knowledge worker optimisation is not only simplistic but it provides an approach that executive management is familiar with and can readily manage to.

Scenario	Knowledge Worker Impact	Logistics Impact
Incomplete details	Suspend processing of application	Product not shipped
Wrong details	Incorrect invoice with delayed payment	Wrong amount of product delivered
Message not received	Frustrated customer	Time spent trying to track shipment
Items not received on time	Time spent repairing customer relationship and not in acquiring new customers and repeat business	Time spent repairing customer relationship to prevent loss of business
Acknowledgment not received	Transaction on hold	Product returned to sender

Table I. Comparison between physical logistics and knowledge worker logistics.

- **Unified and Scalable** – The logistics approach can be used at the individual level, at the group level, at the business unit level, at the company level, the enterprise level and within marketplaces, i.e. it is unified and scalable.
- **Core Competency** – The ability to define, manage and optimise logistics is a core business competency and the knowledge required should be readily known within an organisation. It is then a matter of consistently and persistently applying existing knowledge and expertise.

5 Intra-Organisation Knowledge Logistics

At the personal level, within a business area and within a company, the work of knowledge workers can be defined, mapped, monitored, reported and optimised by reviewing the interaction as a logistics operation. From this comes recognition of key elements:

- **Application of Process** - The processes followed by knowledge workers for much of routine transaction processing can be clearly defined and the information needed at each step identified, i.e. the recipes determined. Like a logistics operation, recipes can be defined and standardised to lower costs and guarantee service delivery.
- **Process Modelling** - From a clear definition of logistical operations can come modelling and an identification of areas for optimisation and rationalisation. The effects of proposed optimisation can be modelled and the benefits realised.
- **Performance Management** - With a definition of operations, the performance of the operation can be managed and effectively reported on. Risks can be managed and areas of vulnerability identified.
- **Quality Management** - The quality of hand-off within each step in the process is an important factor and needs to be assured. Simple logistics management tells us the value of this hand-off and the cost and impacts further down the chain if a quality hand-off does not occur.

6 Inter-Organisation Knowledge Logistics

Longer supply chains, with many points of hand-off, and extended stakeholder management is common within business. The extension of the Physical Chain and Support Chain across organisations is also routine.

These same benefits and principles can be applied to Information Chains to enable Inter-Organisational logistics and knowledge management. Just as with a Physical Chain, complexity is likely to occur as follows:

- **Standard Conventions** – Only when common standards are used can information be readily shared and successfully integrated into systems. Whether it is the naming of data elements or consistency in the nomenclature of account codes, an agreement on standardisation and the mapping of information is required.
- **Standard Infrastructure** – Common standards for message sharing and of infrastructure are required if information is to be effectively shared.
- **Standard Data Quality** – Accepting or supplying bad information or the wrong information disrupts a logistics chain. An agreement on standardised data quality and checking procedures is required.
- **Agreed Performance** – The criteria for performance need to be agreed and the process around this defined and managed.
- **Escalation Processes** – The processing of exceptions and anomalies and an agreed escalation process within and between organisations is required.

7 Impacts of Knowledge Logistics

The implementation and management of logistics causes issues for business but realising the benefits from successful implementing is fundamental to business. With knowledge management logistics, similar challenges and benefits are seen. More significantly though, the approach provides a vehicle for:

- Optimising Process – Lower costs and increased market share through assured delivery.
- Alignment of ICT – A tool for aligning the design, operation and management of ICT.
- Minimising risk – Proven principles minimise the risk to business operations and the risk of implementing change.
- Cultural Change – Many workers at the coalface are looking for solutions that work as they operate and would embrace change that benefits them.
- Addressing Knowledge Management – Provides all of the frameworks, solutions and methodologies needed for knowledge management and its inclusion within routine business operations.

8 Moving Forward

The use of logistics is proven business practice for which organisations have the knowledge and experience. Organisations also know the steps involved in processing and what information is needed. The application of logistics to enterprise knowledge management is then a case of applying proven business.

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