Knowledge management in logistics and supply chain management

An effective method of transferring the socialisation of knowledge is through introducing the concept of an after-action review (AAR).
As Einstein once pointed out: ‘Information is not knowledge.’ Fay Harley, Development Manager, Wincanton, and CILT Young Professional Representative for Bristol, Gloucester and Somerset, explains how we can best transform our information management into knowledge management.

The result of a recent authoritative study showed that on average, respondents felt as though their company was only achieving around 34% value for money from their knowledge management (KM) initiatives. This indicates that even if you happen to be an omnipotent Yoda of logistics, the challenge of effectively sharing knowledge with others still exists. So what is knowledge management and how can it help us in our sector?

A wealth of academic material is in existence surrounding the ever-increasing focus on and importance of successful KM. This article provides an overview of relevant insights for knowledge management in logistics, and contributes to the discussion regarding KM in organisations, as both of these areas are relatively under-researched.

What is knowledge management?

Only widely considered an organisational discipline since 1991, KM can be defined as the process of capturing, developing, sharing, and effectively using organisational knowledge. While the importance of understanding what knowledge management is goes without saying, it is of equal importance to understand what KM is not. Albert Einstein proclaimed that: ‘Information is not knowledge,’ and in a similar vein information management is not synonymous with knowledge management. The possession of a library of unread books does not necessarily equate to an understanding of the knowledge contained within the pages by quickly glancing at the titles on the spine. Knowledge is no more the ability to recall information quickly than the ability to recite from by heart a list through memory techniques such as a mnemonic peg system. There needs to be a level of understanding within the applied context in the environment, be that within a department, organisation or industry.

In an organisational context, having good information management – for example, databases, libraries and document storage – does not correspond to knowledge management. An example of this could be an increase in operating margin of 1% on the previous year’s performance. Fantastic effort, everyone, well done. However, this is just information. Understanding what has driven that improvement, how to measure it, how to replicate it and having the ability to explain and share this with others lies in communicating this effectively.

Once knowledge has been created in an organisational environment, the challenge is to capture it, harness it and share it so that it is no longer an exclusive resource, but mutual, understood and available throughout the organisational environment. To facilitate knowledge management successfully across a supply chain adds further complexities and challenges to the increasingly current topic of the validity of organisational KM.

So why is KM important and relevant to supply chains? Just as managing the supply chain cannot be left to chance, neither can approaches to managing knowledge in supply chains. The importance of effective communication networks between all tiers within a supply chain, facilitates knowledge transfer; in that effective supply chain management requires effective KM, the two are almost synonymous. In competitive and time-critical environments, the ability to capture and utilise knowledge across networks is a source of competitive advantage, and has the ability to build supply chain resilience and agility. KM in the supply chain provides supply chain intelligence, as networks become more complex they would fail unless the correct knowledge is shared. Similarly, successful supply
chains have best practice KM. There can be barriers to successful KM in a single team, however. When including cross-functional teams from multiple different organisations across a supply chain, the barriers to effective KM become even more prevalent.

Types of knowledge sharing

Knowledge can manifest in one of two primary forms: explicit knowledge can be expressed verbally and written down; tacit knowledge is based on intuition and individual experiences, existing only in the subconscious. While this article recognises the importance of explicit and tacit knowledge in supply chains, tacit knowledge is widely regarded as being the most valuable source of knowledge across all types of organisation, that which resides in one’s head. In addition to the added complexities surrounding implicit knowledge, it is not as easy to quantify and is harder to communicate than explicit knowledge.

The forefather of KM theory is Japanese organisational theorist Professor Ikujiro Nonaka, who alongside Professor Hirotaka Takeuchi developed and proposed the SECI model in 1995, a renowned model that shows the different interactions between implicit and explicit knowledge that facilitate effective KM – the socialisation, externalisation, combination and internalisation (SECI) of knowledge – see Figure 1. The SECI model proposes four ways that knowledge types can be combined and converted, showing how knowledge is shared and created in an organisation.

- Socialisation (tacit to tacit) Knowledge is passed on through practice, guidance, imitation and observation. Methods of this knowledge transfer include brownbag lunches (see below), mind mapping, secondment, shadowing employees and so-called water-cooler moments, and are common methods through which socialisation occurs. Face-to-face communication and shared experiences aid successful socialisation.

- Externalisation (tacit to explicit) Tacit knowledge is codified into explicit forms, which enables the ease of
communication of this knowledge. This could be the creation and sharing of a new process flow diagram, new operating hours or a new vehicle design.

- **Combination (explicit to explicit)**
  This is the simplest form of knowledge sharing. Codified explicit knowledge sources, such as documents or database fields are combined to create new explicit knowledge. An example could be taking a new legislation document, updating company records to include this new legislation and communicating the change to employees.

- **Internalisation (explicit to tacit)**
  As explicit sources of knowledge are used and learned through time, the knowledge becomes internalised, therefore becoming personal tacit knowledge. The learning by doing in parallel with the learning based upon the explicit knowledge allows individuals to create their own tacit knowledge. The process of internalisation is a reflective, internal process and can take many iterations of personal consideration.

Those readers who may be studying for exams presently, or those who can recall the feeling that is brought on during exam season may emphasise with the notion of contemplating sitting in the bath holding text books. However, there is no simple knowledge osmosis, no replacement for directed effort. How many times has the reader expressed the wish to transfer implicit knowledge with someone else: ‘If only I could take what you/I know and put it into my/your head.’ This is an example of the socialisation of knowledge, tacit-to-tacit.

Until the ability to read the minds of others becomes a subconscious reflex, more achievable methods of extracting and sharing implicit knowledge will need to be employed by organisations, should more than lip service be paid to the discipline.

**Implications for the supply chain**
Throughout time, philosophers and society in general have recognised knowledge as a resource from which power can be drawn, perfectly encapsulated by the Latin proverb *Scientia potential est*, commonly understood as *Knowledge is power*. As in companies and society in general, knowledge can be recognised and accepted as a strategic resource in the area of logistics and supply chain management. Knowledge is a sustainable source of competitive advantage, in an environment where responsiveness is paramount such as the logistics and the supply chain.

In a small team within the same department of the same organisation there could be barriers to effective knowledge sharing and management. An assumed generalisation could be that with the greater involvement of numerous, nay, countless organisations across multiple regions, barriers to effective KM in a supply chain not only will exist, but may also be more prevalent than in other industries. The reason driving the potential for more barriers to effective KM in logistics and supply chain organisations has three aspects: the frequency, the depth and the complexity in which we work with other departments, other divisions and other companies (across multiple regions, time-zones and countries).

In a supply chain, multiple organisations can be involved in various sequential task steps, a fully collaborative approach or a combination of the both. Where sequential task steps occur – as in, company A completes task 1 before company B can begin task 2 – the essential explicit knowledge is shared. In an open and collaborative approach, socialisation, externalisation and internalisation are more likely to effectively occur. For example, company A and company B fully sharing relevant information, objectives, forecasts and site visits to understand how an operation feels and intra-organisational secondments.

On an operational level, handing a new employee a manual does not mean it will be read. If the new employee does read it, does not mean everything will be understood. Even if the employee reads and understands most things, will they be remembered? Having a process saved on a shared drive, stored at the end of a winding labyrinth of a path file does not equate to effective knowledge sharing simply because it is there. Simply possessing a UK driving licence does not necessarily equip a driver to navigate the many lanes and slip roads of Highway 101 through Los Angeles in evening rush hour, experience manifesting itself in the form of implicit knowledge.

**Methods of KM**

Formal training methods such as courses and workshops are instance of where the combination and internalisation of knowledge can occur. Through the process of training, an employee receives explicit knowledge and internalises this into his or her own personal tacit knowledge. However, what about the
most difficult and most valuable form or knowledge transfer, tacit-to-tacit socialisation of knowledge? Relatively inexpensive methods of aiding the socialisation of knowledge are now discussed.

Brownbag lunches

Borg7 refers to his notion of brownbag lunches as a way to facilitate KM within an organisation. A brownbag lunch refers to a planned but informal lunch, or day provided by an organisation with the intention of discussing trends and technologies. The focus is not intended to be a formal meeting or one-way discussion, but a more relaxed, informal open discussion, normally led by one or a number of subject experts.

Brownbag lunches can be intradepartmental or cross-organisational, with the event and the content being equally as significant to sharing knowledge. Examples of such include industry or sector-specific events, such as those available through CILT, where a particular topic is discussed by an expert in a networking environment. It could be as informal as a Friday morning Breakfast Club where members of a department sit down to discuss the week’s happenings and their current undertakings.

Borg additionally states how KM can occur in informal situations during the working day, especially during coffee breaks and so-called water-cooler moments that are rich sources of knowledge sharing. During these breaks and informal rests from the working day, experiences are shared. This does not mean that all conversations that take place in this manner are rich in relevant information. However, it is an almost organic meeting of employees who would not normally come into contact with each other, similar to an oasis in a desert where a variety of animals that would otherwise not cross each other’s path, congregate for rest and refreshment. It would be naive to suggest that every conversation at the coffee machine is rich in relevant information, but it certainly should not be discounted. The amount of knowledge that is shared informally, especially between departments, in such circumstances can be relevant, rich in information and often timely and current to on goings in the organisation.

After-action reviews

Another method of transferring the socialisation of knowledge is through introducing the concept of an after-action review (AAR). An AAR is a tool to capture and share knowledge, and was an idea first conceived by the US Air Force.8 An AAR examines a major project once it has been completed, focusing on strengths, weaknesses and mistakes that featured in the project. A key characteristic of an AAR is that it should occur immediately after the project has ended and everyone involved in the project must participate in the AAR. If reasonably practicable, AARs should be held face to face. In a study conducted in 2009, 96% of respondents in a UK SME agreed that they found face-to-face communications beneficial to knowledge sharing to discuss projects and incidents.

An AAR is not a weekly, quarterly or annual review of an ongoing project; the project or event has to be completed before the review takes place. The focus needs to be on the lessons learnt, both good and bad; this is not a time for rose-tinted spectacles. An AAR acknowledges the importance of the time for reflection after a major project or event. In our sector, this could be a significant operational go-live project, a business development tender or a large-scale and complex TUPE to or from a 3PL. Consider:

- What went well, and why
- What did not go so well, and why
- What would we do differently and what the consequences of these actions might be
- What is transferable to future projects and how we will ensure these aspects are considered

In many organisations, the critical factor affecting if an AAR occurs is time. In the logistics sector, time plays such a vital and pivotal component of success, from the goods we handle, delivery and collection time promises to the amount of time our individuals and teams have to work on projects. Logistics project teams are rarely idle. Once project A is completed, project B is likely to be waiting to commence. What is needed is the ability to achieve a fruitful balance of a thorough project review whilst refraining from encapsulating so much time that the milestones for current and forthcoming projects affected.

There is a commonality running throughout all organisations, to ‘do the key area of our operation exceptionally well’. As discussed, knowledge
management facilitates successful operation and processes. The question to be posed therefore is: do all organisations have a culture that supports knowledge management?

**Conducive culture, not box-ticking**

The attitudes and climate within an organisation are critical drivers of KM, with the culture of an organisation acting as either a hindrance or facilitator to change. Culture can be defined as assumptions about beliefs, values and behaviours, with the biggest challenge to implementing KM initiatives lying in changing them. Culture exists on many different levels, in various subcultures of individual departments in the same organisation, the overall culture of an organisation, the culture of the industry, the national culture and even the supra-national culture.

Cultures that open and place emphasis on collaboration encourage KM. In contrast, cultures that are closed and competitive are said to discourage KM. Research on the attitudes of American scientists towards KM, found that trust was the most vital component to successful knowledge management initiatives. A lack of trust held by an individual is likely to have a detrimental effect on KM, as it is not known if others will honour their obligations and will not act opportunistically.

There is research to suggest that employees will be reluctant to share knowledge if they are uncertain to how their knowledge will be used. A consequence of this being that no matter how much time, effort and strategy is focused on KM, if trust is unaccounted for, KM is likely to prove a fruitless exercise. In addition to this reluctance to share knowledge, individuals decide on a subjective basis whether to will share and use tacit knowledge.

It has been claimed that a reluctance to share knowledge can be counteracted and KM encouraged by building a culture of trust in an organisation. Just as there needs to be spark to light a fire, there needs to be an active and well-communicated top-led objective that KM is significant and ample resource (time and people) to enable prosperous KM. Unquestionably, there needs to be strong leadership to drive and add direction to a wider organisational buy-in. If the upper echelons are perceived to be only lip-service to a strategy inclusive of KM, it can hardly be surprising if the shop floor displays an apathetic, guarded or nonchalant approach to sharing knowledge.

In conclusion, knowledge and its proper management are vital components to operating effectively in all environments, organisations and industries. Proper KM is difficult to facilitate. Managing KM effectively in a supply chain is not an easy task. It is complex, unwieldy and sometimes hard to see the woods from the trees. Despite this, KM is vital to successful supply chains, providing a responsive, agile and continually evolving source of competitive advantage. Best practice KM is important not only because of the benefits of doing it right, but also the risks and costs associated with doing it wrong.

**About the author**

Fay Harley is Development Manager, Wincanton, and CILT Young Professional Representative for Bristol, Gloucester and Somerset. She has a keen academic interest in knowledge management, having previously conducted a primary study concerning the benefits of introducing Japanese knowledge management theories in a UK organisation.

**REFERENCES**

2. COLLINS, H M, The Structure of Knowledge. Social Research, 60, 1993
4. CHRISTOPHER, M, Logistics and Supply Chain Management: Creating Value-adding Networks, Pearson Education, 2005

**FURTHER INFORMATION**

To find out more about the issues raised in this article, why not join our Data Capture and Information Management Forum? See our website: www.ciltuk.org.uk/AboutUs/ProfessionalSectorsForums/Forums/DataCaptureInformationManagement.aspx

Why not join our Young Professionals Forum? See our website: www.ciltuk.org.uk/AboutUs/ProfessionalSectorsForums/YoungProfessionals.aspx

**FURTHER RESOURCES**

Wincanton information management: www.wincanton.co.uk/services/specialist-services/records-management

here will be a Young Professional event at UWE Bristol in October 2014 specifically about the personal development of young professionals. Further details will be confirmed shortly.