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Effective Adoption of ICT in the Supply Chain:Guidelines on Developing Strategy and on the Planning and Implementation of Projects

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INTRODUCTION

The recent rapid rate of development in ICT has created the potential for technology to be a key enabler in the supply chain integration process. For this potential to be turned into reality the ICT planning and implementation process needs to be:

(i) driven by a clear ICT strategy; and

(ii) carried out in a logical and systematic manner.

The former is essential to ensuring that ICT investments are in line with overall company and supply chain objectives and strategies. The latter recognises that attention to detail is imperative if ICT projects are to meet specified targets and to yield significant benefits. This technical fact sheet provides some guidance on each of the above. However, it must be recognised that all companies and projects are different and what follows provides no more than a checklist. The exact nature of any ICT strategy, and associated planning and implementation processes, need to be thought through carefully.

ICT STRATEGY

Why does an enterprise need an ICT strategy? There are two overriding reasons. Firstly, the rapid rate of development in ICT in recent years has resulted in decision making in this area involving many complex and often inter-related choices (between, for example, point and enterprise solutions and between customised and standard solutions). The sheer volume of applications which have been developed in the general area of SCM means that simply getting to grips with what is available in terms of scope and functionality is itself quite difficult (NITL's Supply Chain Software Directory has been specifically designed to aid this process). Secondly, the business environments in which companies and supply chains operate have also become more complex. This results from increasing levels of competition, more sophisticated markets, more discerning customers and shortened product life-cycles.

Developing an ICT strategy for the supply chain involves the following steps:

- *Assessment of the capabilities required to meet market demand.* This sets the priorities and helps in identifying the gaps as part of overall corporate strategy.
- *Assessment of the role and impact of ICT.* This involves assessing the ability of current ICT resources and capabilities in addressing market requirements. It goes on to assess the potential role of ICT in addressing evolving market requirements. This sets the priorities and helps in identifying the gaps as part of an enterprise's ICT strategy.
- *Assessment of corporate investment opportunities.* An examination of competing investment priorities sets the level of funding available for ICT and other corporate investments. For most organisations, ICT is one of the most significant areas of capital investment.
- *Assessment of ICT costs and investments.* This involves assessing current ICT spend and identifying areas where reallocation of capital spend could be achieved to build the capabilities required. This, in turn, sets the overall level of ICT spend going forward.

> 'For any ICT implementation to achieve its true potential an organisation must decide what to do and then do it properly'

The ICT strategy and available levels of funding then set the parameters for the detailed planning and implementation of appropriate solutions.

ICT Planning and Implementation Process

- *Project initiation.* Based on the ICT strategy, areas of business which have the potential to be improved using ICT are identified. An initial evaluation of the technical options is carried out.
- *Creation of project planning team.* A multi-functional project team is established. Its members include technical as well as non-technical staff. The latter should represent the main user groups across the supply chain (typically for an ERP project this will include purchasing, production, warehousing, distribution, logistics and customer service personnel).
- *Construction of User Requirement Specification (URS).* The project team develops this spec through consultation with as wide a group of users as possible. With developments in extended enterprise solutions this consultation process increasingly needs to extend beyond the boundaries of an individual company into customers, suppliers and other trading and joint-venture partners.
- *Development of an Invitation to Tender (ITT).* It is important that any trade-offs between the requirements of different user groups are identified prior to the ITT being issued. Potential vendors are requested to submit cost and functionality information.
- *Shortlisting of vendors and selecting of preferred vendor.* Vendors will be scored and ranked based on a range of cost and non-cost factors. Non-cost factors include, but are not limited to, system flexibility, scalability, connectivity with existing systems, ability and ease of upgrading functionality, timing and implementation issues, after-sales service support and sector experience (by use of reference sites where possible). The overall completeness and clarity of the quotation should also be considered.

- *Construction of Functional Requirement Specification (FRS).* The functionality required from the system needs to be agreed and detailed. Any bespoke programming changes required, where the FRS does not meet the URS are identified. Business benefits should also be validated against costs as this stage in light of the overall ICT strategy. The FRS is signed off with the vendor as the agreed document to deliver against.
- *Detailed implementation.* The detail of this stage will vary enormously from project to project (for example, point solutions versus enterprise solutions). Typical key stages and issues will include: extensive testing through all stages in the process; ongoing consultation and briefing of user groups and other stakeholders; documentation of work instructions; agreement of software and hardware service contracts; and, training of all affected personnel.
- *Post-implementation evaluation.* This involves ongoing evaluation of system performance against required functionality. It should also embrace "post-audit" evaluation of the actual financial benefits versus those estimated in the original business plan.

Concluding Comments

For any ICT implementation to achieve its true potential an organisation must decide what to do and then do it properly. The former is based on the development of an ICT strategy, while the latter required a logical and systematic planning and implementation process. This technical fact sheet provides a template for both issues.