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**THE ROLE OF ACADEMIC/INDUSTRY PARTNERSHIPS
IN THE DEVELOPMENT OF SUPPLY CHAIN
MANAGERS**

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Abstract

The need for improvement in the logistics and supply chain management capability of companies in Ireland is becoming increasingly recognised. One of the main bottlenecks currently is the shortage of supply chain management professionals. Education and training has a fundamental role to play if the supply of suitably qualified human resource is to be addressed in a meaningful way. Recent research indicates that demand for people with the right knowledge and skills greatly exceeds supply. There are numerous techniques and technologies which can facilitate improvement in a company's supply chain capability. However, experience has shown that these tools alone can not address the weaknesses - any improvement tool is only as good as a company's ability to utilise it and effective utilisation depends above all on the knowledge and skills of employees. Education and training is essential in developing the requisite knowledge and skills. Consultants can play a role in terms of providing an objective view of a company's requirements. But the only way to generate a sustainable competitive advantage is to ensure that the necessary knowledge and skills are available in-house. Indeed, the "consultancy culture" which has developed in many companies is a direct result of this lack of in-house expertise. Given the shortage of suitably qualified and experienced people in the job market, the only way that this problem can be addressed is through effective development of existing staff. This paper describes the partnership model adopted by the NITL to achieve its objective of combining academic excellence with real relevance to commercial needs in its supply chain management development programmes. The Executive Development Programme (EDP) is used to illustrate how the model is implemented.

The *Fundamentals* of Supply Chain Management

A contemporary view of supply chain management (SCM) could be broadly articulated by reference to four *fundamentals* or absolutes (Sweeney 2002). Firstly, the objectives of SCM are to achieve high levels of customer service in targeted markets/segments and to optimise total supply chain investment and cost. This service/cost approach has long been regarded as central to supply chain management.

Secondly, every product or service is delivered to the final consumer (the only source of “real” money in the chain) through a series of often complex movements between companies which comprise the complete chain. An inefficiency anywhere in the chain will result in the chain as a whole failing to achieve its true competitive potential. In other words, supply chains are increasingly competing with other supply chains rather than, in the more traditional axiom, companies simply competing with other companies.

Thirdly, for a supply chain to achieve its maximum level of effectiveness and efficiency management of material flows, money flows and information flows throughout the entire chain must be managed in an integrated and holistic manner, driven by the overall service/cost objectives.

Finally, this holistic approach requires a reappraisal of the way in which both internal and external customer/supplier relationships are created and managed. SCM is not a “zero-sum” game based on adversarial relationships, rather, it needs to be a “win-win” game based on partnership approaches. This point is relevant to the interactions between the key “internal” supply chain functions of buy, make, move, store and sell, as well as to relationships between an organisation and its external customers and suppliers. One of the biggest manifestations of the application of supply chain philosophy in recent years has involved the move away from adversarial relationships throughout the supply chain towards relationships which are based on mutual trust and benefits, openness and shared goals and objectives.

Supply Chain Management in Ireland

The effective application of SCM philosophy is clearly central to the achievement of competitive advantage – “effective logistics management can cut costs, improve service and enhance revenues and that’s just the beginning” (Metz 1998). A recent MIT survey

(Metz 1998) indicated that the implementation of SCM in the USA resulted in:

- 50% reduction in inventory
- 40% improvement in on-time deliveries
- 27% reduction in order cycle time
- Nine-fold reduction in out of stocks

SCM is of particular importance in an Irish context for a variety of reasons. The Irish economy is very open with both imports and exports representing a high proportion of gross domestic product (ESRI 2001). In addition, Ireland has become part of the global supply chain as a result of direct foreign investment and the success of Irish companies in developing markets internationally. Furthermore, Ireland's relative geographic peripherality means the companies based in Ireland need to excel at SCM to compensate for the in-built disadvantage.

Supply Chain Change

The *fundamentals* approach to SCM may well reflect common sense and appear perfectly reasonable and logical. However, adoption of the principles which these "fundamentals" describe requires radical changes in organisational structures and operational processes for many (if not most) companies. For example, a recent report by the National Institute for Transport and Logistics (NITL) on the logistics and supply chain capabilities of indigenous Irish businesses pointed to a very low level of understanding of customer service level requirements and of the supply chain cost drivers (NITL 2001). In this scenario, it is virtually impossible to elucidate overall supply chain objectives, based on the service/cost approach, with any degree of clarity. As the other fundamentals are predicated to a large extent upon a company's ability to formulate such objectives it is difficult to envisage any meaningful or sustainable supply chain improvements without radical change.

Supply Chain Re-Engineering

Re-engineering of supply chain business processes is concerned with "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed" (Champy 1996). There are several features of effective re-engineering which need to be highlighted. Firstly, there now exist many robust approaches to supply chain re-engineering, often based on business process-oriented

methodologies, which can lend some structure to the overall change planning and implementation process.

Secondly, a wide range of well documented examples of supply chain “best practice” has been developed in recent years. Detailed study of the supply chain processes whose outputs achieve high levels of customer satisfaction profitably provides guidance to companies. Much has been written about a diverse array of approaches from vendor-managed inventory to vehicle scheduling optimisation and from supplier base rationalisation to customer relationship management. The “best practice” list is a long one; the learning possibilities are, therefore, extensive.

Thirdly, there are numerous techniques which can be used to ensure that supply chain resources are more effectively and efficiently utilised. These techniques include forecasting methods, optimisation models, process mapping, stock control models, and a lot more besides.

Finally, and arguably most importantly, recent years have seen rapid developments in technology, particularly information technology, which provides the potential for potentially huge improvements in supply chain performance. Information is the “life-blood” of any supply chain, and recent IT developments can greatly enhance the way in which this information is managed.

The People Dimension

However, there is one critical dimension glaringly conspicuous in its absence from all of the foregoing – the people dimension. Practical experience indicates that effective change can never be implemented without proper attention to detail in relation to the people dimension at every stage in the process. Methodologies, best practices, techniques and technologies all have a role to play but without the involvement of appropriately experienced, educated and trained people, their impact will be limited and possibly, negligible. Research indicates that there is a serious shortage of supply chain professionals in Ireland (FAS 2001). In Ireland, the National Institute for Transport and Logistics (NITL) has developed a range of SCM education and training programmes aimed to meet the learning needs of a wide variety of sectors and individuals. The Executive Development Programme (EDP) is one such initiative.

NITL's Executive Development Programme

Background and Rationale

People at all levels in organisations require broader perspectives combined with the ability and motivation to manage change. Existing management must constantly develop their competencies to manage the business from strategy through implementation to competitive operation. The NITL's Senior Executive Learning Programme addresses the requirements of top management and the Graduate Development Programme (GDP), which leads to an M.Sc. in Supply Chain Management, is aimed at the "high-flyers" who will be the world-class managers of the future. There is also a prime need for the best existing junior and middle managers to be developed. In support of this need the Executive Development Programme (EDP) provides training and education of a high academic standard and relevant to modern industry. The programme is aimed at existing and emerging junior and middle managers who have extensive practical working experience but who do not necessarily hold formal academic qualifications.

Programme Aims

The Executive Development Programme aims to:

- develop managerial staff from all functions to manage or contribute to multi-discipline teamwork aimed at radical business improvements;
- prepare managers for effective job mobility within the company;
- provide personal development opportunities for staff in parallel with their meeting job requirements; and
- provide participants with an understanding of the role of logistics and supply chain management in the overall business improvement process.

Admission, Registration and Assessment

Participants do not need formal qualifications to commence the programme, but normally have several years relevant work experience. Companies need to have the means to satisfy themselves that participants have the level of intellectual capability and personal drive required to meet the demands of the programme. Participants register for a Post-Experience Diploma or Post-Experience Certificate as appropriate. The normal registration period for both qualifications is two years, although participants registered for the Certificate would usually be expected to complete within 18 months.

Modules are scheduled in line with overall demand, so that each

individual can formulate their chosen programme of study to meet personal needs. Attendance is typically at 6 to 8 week intervals and the typical class size is 18. Attendance on any one module running is booked on the basis of "first-come, first-served", irrespective of company or function, so that attendees will represent a mix of industrial sectors and supply chain functions.

Assessment is based on short post-module tests or assignments, which are aimed at assessing a participant's basic understanding of the module material, and in-company project assignments. As well as providing evidence of participants' understanding of a subject, the assessment process is designed to help them transfer learning back to the workplace, and to provide real benefits to the company. Participants who successfully complete a full 12-module programme and 2 projects within 24 months are eligible for a *Post-Experience Diploma in Supply Chain Management*. Alternatively, participants who complete a programme of at least 7 modules and 1 project may be considered for a *Post-Experience Certificate*.

Taught Modules

All modules are categorised into logistics, technology, management skills and business awareness. The modules on "Logistics" provide a detailed understanding of all key aspects of logistics philosophy and operational practice. The "Technology" modules address the role of technology, in particular IT, in facilitating business improvements. The modules on "Management Skills" cover all aspects of operational management including quality, project management, production planning and control as well as providing an understanding of the main issues involved in people management. It is imperative that participants appreciate the role of logistics and supply chain management in the context of the overall business. The programme modules on "Business Awareness" address this requirement.

Excellence with Relevance – the partnership approach

All constituent modules in the EDP are delivered by experts who have a deep understanding of world-class best practice. All module material is updated regularly to ensure that current research issues and the evolving understanding of logistics and supply chain management is reflected in the course content. However, it is not sufficient that the programme be simply an exercise in academic excellence. Given its overall aims and objectives it is imperative that the programme is also genuinely relevant to the needs of participants and their employers.

To achieve this objective, all activities associated with the EDP are carried out in very close collaboration with industry. The strategic direction as well as the overall content and structure of the programme are jointly agreed by the NITL and its partner companies. The NITL Board and the Industrial Advisory Panel, both of which comprise NITL staff and senior managers from partner companies, play an important role in this. The Board advises on strategic issues (such as overall rationale and objectives) while the Panel advises on more detailed issues (such as programme structure and overall content). In addition, the NITL has established Module Improvement Teams which are responsible for detailed design and improvement of specific modules within the programme. These teams comprise subject experts from the NITL and partner companies, as well as other subject matter experts (e.g. external academics and consultants). The assessment of programme participants is based on work-related assignments and projects all of which enhance the learning process by emphasising the importance of application of theory in real industrial environments. In this way, the NITL and its partner companies are jointly responsible for all aspects of the programme, as outlined in Figure 1 (below).

<u>Programme Aspect</u>	<u>Responsibility</u>
Strategic direction	NITL Board
Programme structure	Industrial Advisory Panel
Module design and development	Module Improvement Teams
Module delivery	NITL and partner companies
Module assessment	NITL and partner companies
Module improvement	Module Improvement Teams

Figure 1 – Executive Development Programme Responsibilities

Conclusions

The NITL's Executive Development Programme has been successful in developing a key group of individuals from a range of companies in key sectors of the Irish economy. Its success is largely attributable to the partnership approach which has been adopted in all aspects of the programme's design and delivery. This approach ensures that a programme which is of a high standard academically is also relevant to the real needs of partner companies. The forging of genuine partnerships, based on the principles outlined in this paper, will be critical if post-experience education is to become more closely aligned to the wealth creation process.

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