COMPETENCE REQUIREMENTS FOR MANAGING SUPPLY IN INTERORGANIZATIONAL NETWORKS

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Abstract

There is evidence of research in various fields that has relevance to the examination of competence requirements for managing in interorganizational networks, However, research to date is limited in its potential application to managing supply in inter-organisational networks and particularly so when those networks relate to public sector services. This empirical paper builds on prior research on managing supply in interorganizational networks by identifying the skills, knowledge, traits, and behavioural indicators (collectively termed 'competence') associated with effective team performance. Within the wider context of a long-term action research programme on the strategic management of supply in supply networks, interviews were conducted with members of teams learning to undertake a variety of network management roles such as innovation facilitator and information broker. The findings are presented in the form of a competence framework, with the aim of capturing the developing, but still fragmented and largely tacit, understanding among the teams about the strategic management of supply. Competence indicators are organized into six themes: network understanding; developing network position; relationship management; learning, knowledge and knowledge management; strategy formulation; strategy implementation. The complete framework is presented.

We advocate further research to evaluate the usefulness of the competence framework in practice and the generalisability of the framework. In particular we propose to investigate its applicability to examining boundary-spanning teams not directly involved with the purchasing function.

1 Introduction

The value of a network perspective in describing and explaining (inter)organizational process and structure is widely acknowledged (see, for example, Nohria and Eccles 1992; Araujo and Easton 1996). The success of many high-profile firms (e.g. Womack, Jones and Roos 1990; Jarillo and Stevenson 1991; Kinch 1992) has been ascribed, at least in part, to their capability in mobilising resources of, and aligning activities with, suitable counterpart organizations (Håkansson and Johanson 1992; Johanson and Mattson 1992). Managers within such organizations acknowledge the importance of their relations with other organizations, notably joint venture partners, suppliers and customers. The effectiveness of teams and individuals in boundary spanning functions such as marketing and purchasing and supply has become an increasingly important priority. Considerable attention has been paid to the rising profile of the purchasing and supply function within firms (e.g. Gadde & Hakansson 1994; Harland 2001). These changes to the function's role and contribution to the organization have implications for personnel competence requirements.

Increasing complexity, uncertainty and dynamism of the business context (Zheng et al 2001) means that organizations, teams and individuals have to develop, adopt and enhance new perspectives, knowledge and capabilities. There is widespread recognition of the importance of supply practitioners (1) thinking and behaving more strategically; (2) thinking in terms of, and taking decisions in, supply networks, rather than remaining confined to the boundary of their own organization; (3) learning more effectively (Harland 1995). Review of research aimed at understanding the competence requirements of boundary spanning personnel (specifically, purchasing and supply, but also other functions include marketing and sales) indicates some important gaps. However, there are notable deficiencies in the research to date. First, much of the research is not empirically based. Second, where surveys are used

these fail to provide depth and richness of understanding that would be gained from in-depth interview and case based research. Third, there is undue focus on professional discipline.

This paper presents findings of an empirical research project that begins to address some of these deficiencies. The aim of the project was to develop a detailed understanding of organizational, team, and individual learning needs and processes associated with effecting the transition from 'doing contracting' to 'doing strategic management of supply'. The focus here is on associated team and individual competence.

From our perspective, strategic management of supply is underpinned by supply strategy, a concept grounded in the notion of externalising operations strategy thinking, tools and techniques (Harland, Lamming and Cousins 1999) from the intraorganizational setting to the context of interorganizational supply networks. The focus of supply strategy is on improving supply processes across supply networks to improve performance for the benefit of the end 'customer'. In the case of UK healthcare, where we have conducted extensive research since the mid-1990s, the end customer can be seen as patients and citizens / taxpayers.

Efforts to move from the traditional role of contracting agent (organizing contracts between hospital managers and suppliers) to the strategic management of supply in supply networks have, in some cases, proved successful. Some teams have adopted network management roles (Harland and Knight 2001) such as innovation facilitator, information broker and advisor. In other cases, the transition has proved more problematic, for reasons attributable to issues that can be categorised as features of: (a) teams' strategic plans; (b) teams' abilities and motivation; (c) the supply network within which the teams operate; (d) the organizational context (Harland 1996; Harland and Knight 2001).

Whilst prior research offers lists of skills, knowledge and attributes relevant to strategic supply management, it does not provide the detailed insights necessary to support this fundamental transition. For example, the importance of relationship management capability is widely recognised, but there is little that offers a detailed view of what competence makes for good relationship management.

There are two main aims to this research. First, we aim to develop a more detailed understanding of the features that differentiate teams that are seen as more effective at strategic supply management than their peers. Second we aim to produce a management 'tool' to assist development of people in the focal organization. Thus, this project is very much applied research. However it also contributes to enriching our understanding of networking activities (Johnsen et al 2000) and supply network management (Harland and Knight 2001).

In the following section of the paper we provide an overview of relevant literature, focusing on the changing supply role and activities associated with 'network working' and the implications for personnel competence. In the third part of the paper we describe the wider research programme within which this project is set, prior to setting out the research design and process in part four. Part five presents and discusses the findings. In concluding, we consider the implications for practice and future research.

2 Literature Review

There are many examples of case studies of organizations held up as networking exemplars within various literatures, for example the cases of Toyota (Dyer and Nobeoka 2000; Womack, Jones and Roos 1990), Benetton (Camuffo, Romano and Vinelli, 2001 and Jarillo and Stevenson 1991), and Volvo (Kinch 1992). However their usefulness in elucidating the

issues with which this paper is concerned is limited. Firstly, most cases are manufacturing organizations within a network serving a consumer market. Their wider relevance is not clear. Secondly, the case descriptions offered by the researchers tend to describe (a) how effective network management relates to organizational success, and (b) processes rather than the competence that teams and individuals deploy in performing those processes.

For firms such as Toyota, their expertise in mobilising key members of their supply base to form an effective knowledge sharing network (Dyer and Nobeoka 2000) can be seen as 'core competence' (Hamel 1994: 12-16). It provides competitive advantage and customer value and is not easily imitated. To achieve these outcomes, the organization's focus goes beyond dyadic relations, to managing the network.

The notion of network management is contested (Håkansson and Snehota 1995), but is accepted and well established in some fields (e.g. Kickert, Klijn and Koppenjan 1997). In considering supply, one might view strategic management of supply in interorganizational networks as 'supply network management'. Cox and Lamming (1997) view the role of purchasing professionals as becoming 'external resource management'. These concepts, though, are rather broad and indeterminate. In previously reported research (Harland and Knight 2001; Knight and Harland 2000), in which we wished to identify goals and associated activities beyond the traditional contracting role, six supply network management roles were identified: information broker; advisor; network structuring agent; supply policy maker and implementer; co-ordinator; innovation sponsor.

The objective of this research is to understand better the skills, knowledge, attitudes, and behavioural indicators (collectively termed 'competence') necessary for performance of such network management roles. Whilst there is prior research that offers insights to this matter, there are many limitations to its relevance and potential for us to generalise from it. For example, there is research whose focus is not supply (e.g. Ritter 1999, on innovation; Chaston 1995, on SME development), and research that takes a profession / business function centred view (e.g. Millman and Wilson 1999, on sales; Van Weele 1994, on purchasing). Social skills (Ritter 1999), political skills (Millman and Wilson 1999), and a network orientation (Ritter 1999) are widely emphasised. The contracting capability of personnel is also stressed (Ritter 1999: 469; Cox and Lamming 1997: 61), including how to develop and align incentive structures.

The fragmented nature of the prior research, the limited amount of empirically based findings, and predominance of private sector, manufacturing research settings convinced us that a more grounded approach (Glaser and Strauss 1967) would be a more suitable means of achieving the research objective than, say, testing others' findings in the context of supply.

The next section describes the context within which the work was undertaken.

3 Research Context

This research is based in the UK public health sector, which we take to comprise the National Health Service (NHS) and its suppliers. In 1991, a special health authority, the NHS Supplies Authority (the 'Authority'), was established to improve and co-ordinate supply management, by providing a national contracting and logistics service and a local supplies operation service, in and for English NHS hospital trusts. In April 2000, the core purchasing and strategy functions of this Authority were formed into the new NHS Purchasing and Supply Agency ('the Agency'), an executive agency of the UK government's Department of Health, providing a policy lead to the English NHS on matters relating to purchasing and supply.

In 1995, a collaborative programme of research on supply strategy began between the Centre for Research in Strategic Purchasing and Supply (CRiSPS) at the University of Bath and the Authority, and the partnership continues with the Agency. The principal research approach is action research (Eden and Huxham 1996), seeking to develop theory through abductive reasoning (Coffey and Atkinson 1996: 155; Dubois and Gadde 1999).

The majority of the Agency's personnel work in teams responsible for particular product/service groupings, such as pharmaceuticals; food and nutrition; rehabilitation services; medical and surgical products; diagnostic medical equipment; facilities management and utilities; IT/IS and office services. Within each team, personnel are allocated to specific subgroups such as chilled foods; electricity; generic pharmaceuticals; prosthetic services and components; diagnostic imaging equipment. It tends to be at this team level that supply networks are identified, since it often coincides with supplier and customer groupings.

We view supply networks as constituted by: (1) organizations linked by economic exchange associated with the production and delivery of specific (families of) goods and/or the performance of specific (families of) services; (2) those organizations that have direct influence over the supply process, the end product and its usage, such as regulatory agencies, policy makers, research and development institutions, and trade associations; (3) the relationships between network members (Knight and Harland 2000).

An example is illustrated in Figure 1 – the prosthetic (artificial limb) supply network. In England, patients attend one of 34, specialist Disablement Service Centres, where personnel from a range of professions provide care. Service contractor employees (prosthetists and technicians) are part of the clinical team, along with NHS employed doctors, nurses and therapists. Each Centre is based on a hospital site, and Centre Managers are accountable to their host trusts, and to the health authorities, which commission services. Upstream the prosthetic supply network consists of service contractors, component manufacturers and their trade association. Agency personnel are involved in all contracting for prosthetic services and most purchasing of componentry. The Medical Devices Agency plays an important regulatory role in this network, and well-organized patient representative groups (which operate locally and nationally) also have a high profile.

Compared to other UK health supply networks, the prosthetic network has few actors, the actors are highly interconnected and the supply network is relatively stable. Other supply networks are less stable for various reasons. First, their suppliers are more varied – they range from diversified multinationals to highly specialist SMEs; some are health specific, some not; some have highly active and influential trade associations, some do not. Second, their customer markets are more fragmented. Downstream, there may be complex buy groups involving surgeons, pharmacists, theatre nurses, clinical scientists, catering, facilities and finance managers, as examples. Third, in some supply networks, actors such as regulators or patient groups are highly influential and can destabilise the network. Fourth, the influence that the Agency teams have on the supply network also varies, partly as a function of the amount of spend that is influenced by contracts they have organized. Clearly, there is huge variety of actors, activities and resources across these networks.

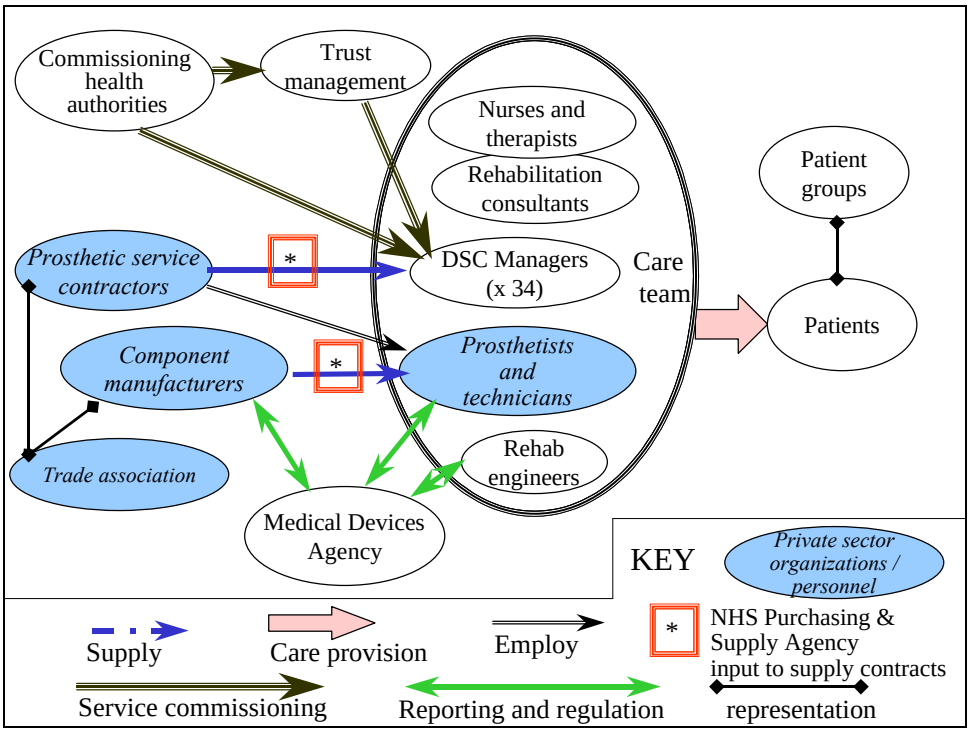

Figure 1
Illustration of the prosthetics supply network in England

4 Research Design and Process

The project as a whole was organized to address the following research questions:

RQ1 What do the organization, teams and individuals need to learn about operating in interorganizational settings to support the implementation of a strategic approach to the management of supply for the NHS?

RQ2 How can (does) this learning occur?

RQ3 What are the factors that enable, or that constrain, such learning?

RQ4 How can this learning be encouraged and promoted?

The particular aspect that we address here is the competence of teams and individuals that is important in effective supply management. What skills, knowledge and attributes do the more effective teams deploy, that differentiates them from others? We are not concerned with all aspects of their competence (for example, personal and general management competence), but rather what is important specifically in the context of their roles in supply networks.

Semi-structured interviews were conducted with over 20 managers and purchasing personnel in the focal organization, many, but not all, of whom were working in teams that were considered to be capable of strategic supply management. Interviewees worked in a wide range of contexts. Though all the networks are NHS related, there are considerable differences between, say, working in medical settings and working with facilities management professionals and the utilities industry. Many of those interviewed have a background in purchasing, whilst others have diverse career paths including experience in the utilities sector, in pharmacy, and in sales.

To encourage a focus on strategic supply management, rather than more traditional contracting, interviewees were asked to consider the six 'network management roles' identified in a previous tranche of research (Harland and Knight 2001). To elicit insights into what differentiates high performers from adequate and poor performers, interviewees were invited to think of specific cases (teams and individuals), and identify how and why they differed from others.

Data were analysed for all references to skills, knowledge, traits, behavioural indicators and outcomes associated with effective and ineffective performance. Over 250 items of data were identified. These were constructed into a framework describing the features of high performance, which was then critically reviewed by a small group of managers (the 'review group'), and revised.

5 Findings

5.1 Factors For Competent Performance

Predictably, in describing the features that differentiate high performers, interviewees mentioned skills and attributes such as relationship management and credibility. However, with further probing, they usually were able to be more specific and illustrate what underpins effective relationship management, or credibility in the eyes of counterparts.

For example, one respondent identified that some buyers fail to deploy negotiation skills developed in dealings with suppliers in their interactions with NHS personnel, assuming instead that fellow NHS people are more likely to be in agreement. He spoke of a colleague whose reputation for dealing with hospital consultants was particularly good:

> "he is non confrontational, listens to what they are saying, and he will work around that and not even necessarily try to change their opinion. He will work around what he has to work with, and will put in alternatives. Again, it's making them say what the issue is with it, rather than confronting them with it. Therefore, the decision is theirs, rather than us saying we will do it like this, which is never going to go down well."

Similar views were expressed in terms of dealing effectively with other health service colleagues, and lobby groups. The best teams and individuals are able to challenge others without being confrontational.

In developing credibility, a respondent explained that it was important to emphasise their purchasing expertise, though simultaneously demonstrating adequate technical knowledge of medical products and processes to be able to speak a 'common language' with, say, pharmacists and surgeons. Buyers need to distinguish the boundaries of supply matters, and these vary by setting, by issue, and by counterpart. However, it is also recognised that the skill sets for effective purchasing and effective performance of the supply network management roles are different. Being good at 'buying' is necessary but not sufficient for good strategic management of supply.

Some factors are difficult to influence, and are controlled at an organizational, not team or individual level. For example, some counterparts mistrusted buyers since the Authority was, in (small) part, financed by retrospective rebates on certain contracts, and therefore NHS hospital personnel could question the motives behind recommendations to use national contracts. Interestingly, the Agency is fully funded by the Department of Health so this constraint is being removed, but now Agency personnel sometimes face constraints arising from their new status as civil servants.

Other points raised by interviewees relate to the internal workings of the team, and the organization. For example, internal information exchange and sharing and accessing one another's contacts were considered important. Finding the time to review and debate issues as a team was considered critical to identifying and assessing options for action. Learning by informal means was emphasised, as were skills of enquiry and research.

Lack of understanding of the "bigger picture" (NHS and/or business and strategy) was cited several times as a critical factor in explaining why some personnel are not capable of effective strategic supply management.

> "to gain any kind of credibility with senior clinicians you also need the knowledge of the wider NHS, the wider implications of what his relationship is with the supplier, how you're impacting on that relationship and some empathy"

Interviewees spoke of the importance of: keeping oneself informed through reading widely; a language 'base' (to understand others) and communication skills (to express one's own understanding); awareness of other sectors in business (acquired by working in other organizations, or through interaction with fellow students on professional and management education courses).

Many of the interviewees spoke of how they try to achieve buy-in from their network counterparts. An inclusive and consultative style was considered important, though another respondent expressed concern that being open and 'speculative' could be seen as lacking a sense of direction. Buyers need to know how to demonstrate commitment, and to 'read' others' commitment, and to appreciate reciprocity.

One interviewee emphasised timing and discretion. He considered it important to not be too open too soon about plans, strategies and objectives. He did not advocate secrecy, but stressed a sense of timing in revealing strategy. Premature sharing could provoke resistance. Provoking resistance was also a potential outcome of injudicious use of power.

Flexibility was stressed by a number of interviewees, in a variety of ways. Managers commented frequently on the difficulty of reconciling shorter-term, more operational objectives with longer-term, more strategic priorities:

> "it is being able to see the operational issues for what they are and to understand them, but to see the short/medium term strategies and the overall business strategy and fit them in. If they won't fit in, because things don't always fit together, have a flexible way of thinking to work in harmony"

The ability to plan well was mentioned, but it was also noted that flexibility to take up unexpected opportunities is important.

In this part of the paper, we have sought to sketch out some of the main issues raised by interviewees. Clearly, the attributes and behavioural indicators deployed for strategic management of supply (as with any management role) are complex, subtle and highly interwoven. It was necessary to undertake several iterations of data processing and analysis, with input from the review group, to produce an account of the findings in a suitable form for application to practice. The resulting framework of team competence is presented next.

5.2 Building the Team Competence Framework

To support people development in the Agency, the Human Resources Director proposed that one of the outputs of the project should be a team competence framework for strategic supply management. This would complement competence descriptions for purchasing/contracting,

and management. The insights gained from the interviews were reviewed to cluster and refine them into a suitable format. In doing so, we sought to meet a number of criteria: firstly, to minimise (though not eliminate) the overlap between clusters and therefore reduce duplication; secondly, to be consistent with previous frameworks and guidance relating to supply strategy; thirdly, to ensure that the framework could be meaningful to someone with little knowledge of supply strategy; fourthly, to balance brevity and detail.

Table 1 briefly describes the main themes identified from the interview data. The first, network understanding, relates to the knowledge that teams need about the relevant networks. This knowledge might be deployed in developing network position, managing relationships, or formulating or implementing strategy. 'Developing network position' and 'relationship management' are differentiated because the former is more general, about role and profile within the network, whilst the latter more particular, focusing on specific relations and their development. Initially, strategy formulation and implementation formed one theme, but they were subsequently disaggregated since for formulation emphasis is placed on research and developing a shared strategic vision/direction, whilst planning and project management are the focus of implementation. The final theme, learning, knowledge and knowledge management, reflects the repeated mentions by interviewees of the greater range and depth of knowledge needed, new challenges they faced in its acquisition and the ability needed to make good use of data that are often incomplete and equivocal.

Tables 2A, 2B and 2C lists all the themes and their descriptors.

NETWORK UNDERSTANDING
A competent team has a comprehensive understanding of the network(s) within which the team operates.
DEVELOPING NETWORK POSITION
A competent team has a planned approach to developing its position in the network, but is flexible enough to take advantage of opportunities that arise.
RELATIONSHIP MANAGEMENT
A competent team actively develops and manages relationships
STRATEGY FORMULATION
A competent team develops a strategy, backed by evidence and with clear objectives, that has the support of key stakeholders.
STRATEGY IMPLEMENTATION
A competent team plans and executes the strategy, monitoring outcomes against plans and adjusting strategy, objectives or actions as necessary.
LEARNING, KNOWLEDGE AND KNOWLEDGE MANAGEMENT
A competent team actively promotes learning and enhances its expertise through developing knowledge and knowledge management processes.

Table 1
Principal themes of team competence in strategic management of supply.

NETWORK UNDERSTANDING **Has a comprehensive understanding of the network(s] within which the team operates.** Understands the influence, culture and internal structure of other organisational players, and their relationships with other players in the network. Identifies influential individuals Can define own links with network players and relative influence within the network Understands the factors that influence others' views, behaviours and decisions Understands others' priorities and objectives Identifies where different parties' priorities and objectives do (not] align Identifies (potential] key drivers for change and recognises enablers and constraints Understands the implications of DH/NHS priorities for the network	DEVELOPING NETWORK POSITION **Has a planned approach to developing its position in the network, but is flexible enough to take advantage of opportunities that arise.** Develops good relations with influential players whose support will improve ability to achieve objectives. Works to improve relations with potentially less co-operative players. Establishes and maintains its reputation as the NHS's expert in matters of supply. ∗ Is clear about the Agency's role, remit and limitations ∗ Manages expectations ∗ Successfully supports supplier development ∗ Participates in educating NHS people re supply Is an active participant in important interest/working groups

Table 2A
Team competence framework for the strategic management of supply
(part 1 of 3)

STRATEGY FORMULATION **Develops a strategy, backed by evidence and with clear objectives, that has the support of key stakeholders.**	STRATEGY IMPLEMENTATION **Plans and executes the strategy, monitoring outcomes against plans and adjusting strategy, objectives or actions as necessary.**
Undertakes research and analysis for strategy development ∗ Undertakes own research ∗ Accesses and/or commissions expert advice, research and published data Develops a strategic vision/direction ∗ Demonstrates critical thinking/conceptual ability, and lateral/strategic thinking ∗ Takes account of how change might be brought about, but is not unduly constrained by current practice and network structure ∗ Takes account of future developments and others' priorities and expectations, especially DH and NHS Sets objectives and team priorities ∗ Shows a clear route to desired strategic outcomes ∗ Objectives are aligned to corporate mission, DH and NHS priorities, and the team can demonstrate how its contribution fits into the bigger picture ∗ Demonstrates good judgement in the planned allocation of resources having carefully assessed where they can make the most impact, and balances costs and benefits. ∗ Undertakes risk analysis, appropriately using tools and techniques, and plans how risks will be managed ∗ Recognises the price of inaction Engages others in the network to gain their input and support ∗ Prepares convincing case, clearly argued and backed by evidence ∗ Considers proposal from the point of view of other network players ∗ Consults appropriately ∗ Actively seeks the support of key influencers in the Agency, and the network ∗ Deploys negotiation skills to deal with all network players, not just suppliers ∗ Deals effectively with resistance and inertia	Plans and prepares for implementation ∗ Prepares an implementation plan which takes account of network position, and resources. ∗ Works with team leader to prepare the team (e.g. training, developing relationships, acquiring/redeploying resources) ∗ Communicates effectively and at the right time with all relevant parties ∗ Works with team leader to consider how innovation in the contracting process might release resources for strategic work. Executes plans efficiently and effectively ∗ Uses power/mandate judiciously and selectively ∗ Deploys excellent project management skills ∗ Undertakes supplier development, and supply education as necessary ∗ Co-ordinates appropriately with other teams internally and others in the network, especially other agencies and government departments Monitors, reviews and revises strategy, objectives and plans ∗ Monitors outcomes and results and can clearly describe progress with respect to strategy and objectives ∗ Monitors other developments and assesses their impact ∗ Demonstrates flexibility and is able to adjust strategy, objectives, plans as necessary

Table 2B
Team competence framework for the strategic management of supply
(part 2 of 3)

RELATIONSHIP MANAGEMENT **Actively develops and manages relationships** Builds and maintains both formal and informal relationships Identifies relationship 'gaps' - players with whom direct relationships should be established Assesses the quality of relations, and takes any necessary steps to improve Establishes effective communication channels Maintains contact with other network players, in particular regular informal contact with key individuals Knows how to demonstrate commitment and read others' commitment Predicts and deals with sources and causes of conflict Deploys excellent consultation skills Is able to be inclusive and build consensus, and recognise when this approach is appropriate Is persuasive (well presented arguments, backed by evidence) Is skilled at chairing / managing meetings ========== Underpinning relationship skills required of individual team members: ∗ Able to form and maintain relationships with people at all levels ∗ Confident with aggressive/difficult players ∗ Able to remain calm under pressure ∗ Able and willing to challenge others without being confrontational ∗ Able to deal with resistance and diffuse a difficult situation ∗ Demonstrates tact and diplomacy ∗ Is good at listening ∗ Avoids complacency that can arise with familiarity ∗ Is a good communicator (in writing and face-to-face; formal and informal)	LEARNING, KNOWLEDGE AND KNOWLEDGE MANAGEMENT **Actively promotes learning and enhances its expertise through developing knowledge and knowledge management processes.** Develops learning, knowledge management and research skills, and uses these appropriately ∗ asks for help when needed ∗ accesses information from a wide variety of sources ∗ undertakes pro-active horizon scanning, and develops relationships to support the process ∗ copes well with complexity and (apparent) chaos ∗ copes well with large amounts of information ∗ deals appropriately with incomplete or inaccurate data Develops and actively sustains 'learning culture' ∗ recognises and applies learning ∗ encourages innovation within the team and by others ∗ supports others' learning and knowledge development in the network ∗ dedicates time and other resources to learning Has sufficient knowledge of the following areas to enable effective performance: ∗ corporate context (how the Agency relates with stakeholders); * the NHS; * supply markets; * users of goods/services and health care provision; *Agency contracts; *key current issues; * policy and strategy; *other key players in the network Proactively identifies and takes steps to deal with important gaps in knowledge ∗ commits resources to developing own knowledge base ∗ recognises knowledge acquired through its activities, and its potential application in the performance of new roles and activities ∗ is good at persuading others to share information ∗ develops its expertise and knowledge through informal exchanges with network contacts

Table 2C
Team competence framework for the strategic management of supply
(part 3 of 3)

Throughout the analysis process, the primary focus was on team competence, to align with the view that it is a team that enacts a network management role. Some of the entries clearly relate to personal attributes of team members and, arguably, these could be treated separately from the remainder of the framework. They have however been included on the basis that, though the attribute resides with the individual, it is deployed for the benefit of team performance. Furthermore, (a) not every member of the team has to have the attribute, what matters is whether there are enough team members with the attribute to meet performance needs; (b) some of the attributes are divergent and it is unlikely that one person would have the full range.

5.3 Observations and Discussion

Some apparent contradictions between interviewees in fact represent a 'tension' that buyers must constantly consider, for example between openness and discretion; being consultative or directive; deferring to others or asserting one's position.

> "you have to be able to stand your ground and argue your case and be robust and be aggressive, selectively. At the same time you've got to be able to step back, be passive, be a service provider, be meek, and occasionally do what you're told"

This versatility lends weight to our choice of focusing on competence at the level of the team. Different personnel might take a lead role in different circumstances; an individual's 'weakness' in one situation might be a strength in another.

In processing the data, we sought to identify both input and output indicators of high performance in the strategic management of supply. Output indicators can be seen as 'signs of success'; so, for example, how would a team know that they had succeeded in developing a good relationship with a supplier? In this case, invitations to present at sales force meetings or the provision of unsolicited information about a supplier's strategic plans were cited as examples. Generally, however there were few 'signs of success' relative to the number of input indicators.

In a preceding tranche of research in the programme with the Agency (Harland and Knight 2001), we identified that, whilst some skills were relevant to all six network management roles (e.g. communication; negotiation), others could be linked more closely to specific roles (e.g. information broker and IT expertise). However, in this study, links between aspects of the competence framework and particular network management roles are not so evident. This might be a consequence of the process and/or reflect that competence transferability between roles is high. We suggest that differences would be more apparent in output indicators, than input indicators. To address this matter, further empirical research would be required.

Munro and Andrews (1994) pointed out two important limitations of the competence approach. Firstly, it encourages focus on the job and the jobholder to the exclusion of organizational factors. Secondly, there is a risk of "capturing the past, not preparing for the future". In this project, organizational factors, such as corporate culture and policies, were specifically addressed through consideration of organizational learning requirements. It has been emphasised that team competence and motivation is one of several categories of factors (Harland and Knight 2001). The competence framework is future-focused in that it represents the emerging roles and contribution to the NHS of the Agency, not the established role of contracting agent.

Various methods are used to research and present competence 'standards' (compare for example Woodruffe 1992; Spencer and Spencer 1993; Fletcher 1991, on National Vocational

Qualifications). Considerable emphasis has been placed by some (notably Spencer and Spencer, and NVQs) on demonstrating objectivity, both in terms of deriving the standards and their subsequent use in assessment. This concern with the validity of HR competences stems from their use in recruitment, and is based on the perceived need to prove the link between an individual's performance in assessments against the competence standards and future job performance (Knight 1997).

The competence framework is not presented to Agency personnel as the definitive statement of knowledge and behavioural indicators that are linked with effective performance. Rather, its purpose is to capture the growing, but fragmented and often tacit, understanding within the organization of what underpins effective strategic management of supply. The accompanying guidance stresses that the framework is offered as a basis for intra-team dialogue for development planning, and that teams will need to judge subjectively whether they are competent. The guidance also emphasises that teams should back their judgement with evidence, to make it easier to compare their competence at different points in time

Initial feedback from the review group and other potential users of the framework has been very favourable, suggesting that it describes well the attributes and behavioural indicators of teams within the organization that are effective in strategic supply management. The guidance developed to support use of the framework has also been commented upon favourably, but has yet to be tested. A formal evaluation of the competence framework would be a useful, though lengthy, task. However, we suggest that the potential value of the framework and associated guidance lies not only in its prospective use as a 'tool' for human resource management to measure competence and plan its development. The content of the framework brings together and articulates knowledge that is currently fragmented and implicit. Considerable learning at all levels, organizational, team and individual is necessary to take on the supply network management roles. Appropriately communicated, frameworks such as this can help to shape shared conceptions of effective performance and how it is achieved, and contribute to 'sensemaking' (Weick 1979).

In advocating that teams such as those at the NHS Purchasing and Supply Agency should take on the new, much wider remit of strategic supply management, we are recommending they adopt a network perspective, emphasising connectedness (Araujo and Easton 1996: 100), and recognising and coping with the increased complexity and uncertainty it brings. Political and social skills are at a premium in this new context. "Network managers are not dealing with one participant, nor with one process. They have to deal with several games being played at the same time and a series of games played over time." (Klijn and Teisman 1997: 109).

6 Conclusions

This paper presents the findings of empirical research designed to elucidate the new competence requirements of teams engaged in strategic supply management, which we view as constituted by six network management roles (Harland and Knight 2001). From interviewees' insights of behaviours, knowledge, skills and attributes associated with effective performance, and with input from practitioners in analysing the data, we have constructed a framework of team competence. This is not a framework for 'strategic purchasing' since it does not feature the contracting oriented competence of teams and individuals. Unlike much prior research, the starting point was not the purchasing function nor the purchasing profession. The network management perspective is much broader, and these findings are therefore potentially relevant to boundary spanning teams not directly involved in purchasing.

The framework is a general statement of competence, which is not differentiated by network management role nor linked to specific network contexts and associated activities (Zheng et al 2001). This is a framework derived from over 20 interviews, and grounded in understanding developed through several years of action research with the focal organization. The organization is unusual in its position in supply networks (at the public-private sector interface), and because its core, established purpose is contracting on behalf of others. Nevertheless, it seems to us that many of the competence indicators (in Tables 2A, 2B and 2C) are likely to be highly relevant in many, if not all, strategic roles at organizational boundaries. These are not 'core' competences (Hamel 1994) since they are not unique. Different organizations are likely not to have fundamentally different needs, but to place different emphases on different aspects of competence. This view though would need to be tested through further empirical work.

The findings fit well with many aspects of prior research and theory, especially in industrial marketing, purchasing and policy network management. Interviewees' comments consistently echoed factors in the Interaction Model of interorganizational relations and the interplay between actors, activities and resources in networks. The contribution of many researchers in the IMP 'tradition' arises from theorising based on observation of practice. Here, we make a further iteration between management theory and practice.

References

Araujo, L. and Easton, G. (1996), "Networks in Socio-Economic Systems: A critical review," in Networks in Marketing, D. Iacobucci, ed. 63-107.

Camuffo A, Romano P and Vinelli A (2001) "Becoming Rigid to Obtain Flexibility: Benetton's Innovative Strategy to Design and Manage the Whole Network", in What Really Matters in Operations Management, K. Blackmon, S. Brown, P. Cousins, A. Graves, C. Harland, R. Lamming and H. Maylor (eds.). Bath, UK: School of Management, University of Bath.

Chaston, I. (1995), "Danish Technological Institute SME sector networking model: implementing broker competencies," Journal of European Industrial Training Vol. 19, No. 1, 10-17.

Coffey, A. and Atkinson, P. (1996), Making Sense of Qualitative Data: Complementary Research Strategies. London: Sage.

Cox, A. and Lamming, R. (1997), "Managing supply in the firm of the future", European Journal of Purchasing and Supply Management, Vol. 3, No. 2, 53-62.

Dubois, A. and Gadde, L.-E. (1999), "Case Studies in Business Market Research: An Abductive Approach," Proceedings of the15th Annual IMP Conference, University College, Dublin.

Dyer, J. and Nobeoka, K (2000), "Creating and Managing a High-performance Knowledge-sharing Network: The Toyota Case," Strategic Management Journal, Vol.21, 345-367.

Eden, C. and Huxham, C. (1996), Action Research for Management Research British Journal of Management, Vol. 7, 75-86.

Fletcher, S. (1991), "NVQs, Standards and Competence". London: Kogan Page.

Gadde, L.-E. and H. Hakansson (1994), "The Changing Role of Purchasing: Reconsidering Three Strategic Issues", European Journal of Purchasing and Supply Chain Management, 1(1), 27-35.

Glaser, B. and Strauss, A. (1967), The Discovery of Grounded Theory: Strategies for qualitative research. Chicago: Aldine.

Håkansson, H. and Johanson, J. (1992), "A Model of Industrial Networks," in Industrial Networks: A new view of reality, B. Axelsson and G. Easton, eds. London: Routledge. 28-34.

Hamel, G. (1994), "The Concept of Core Competence," in G. Hamel and A. Heene, eds. Competence-based Competition. Chichester: John Wiley. 11-34.

Harland, C.M. (1995), "Networks and Globalisation: A Review of Research," Engineering and Physical Sciences Research Council, Final Report of Grant N. GRK53178.

Harland, C.M. (1996), "Supply Network Strategies: The Case of Health Supplies," European Journal of Purchasing and Supply Management, Vol 2, No 4, 183-192.

Harland C.M. (2001 forthcoming), "The Purchasing Strategy Process" in Day M (ed.) "Gower Handbook of Purchasing Management", 3rd Edition . Aldershot: Gower Publishing.

Harland, C.M. and Knight, L. (2001), "Supply Network Strategy: Role and Competence Requirements," International Journal of Operations and Production Management, Vol.21 No.4, 476-489.

Harland, C.M., Lamming, R.C. and Cousins, P.D. (1999), "Developing the Concept of Supply Strategy," International Journal of Operations & Production Management. Vol 19, 650-673.

Jarillo, J.C. and Stevenson, H.H. (1991), "Co-operative Strategies: The Payoffs and the Pitfalls," Long Range Planning, Vol 24, No 1.

Johanson, J. and Mattsson, L.-G. (1992), "Network Positions and Strategic Action - An Analytical Framework," in Industrial Networks: A new view of reality, B. Axelsson and G. Easton, eds. London: International Thomson. 205-217.

Johnsen, T., Wynstra, F., Zheng, J., Harland, C.M. and Lamming, R.C. (2000), "Networking Activities in Supply Networks," Journal of Strategic Marketing, Vol. 8, No. 2 (June), 161-181.

Kickert, W., Klijn, E-H, and Koppenjan, J. eds. (1997), Managing Complex Networks: Strategies for the public sector, London: Sage.

Kinch N (1992), "Entering a Tightly Structured Network - Strategic Visions or Network Realities," in Managing Networks in International Business, M. Forgren and J. Johanson (eds). Philadelphia: Gordon & Breach. 194-214.

Klijn, E.-J. and Teisman, G. (1997), "Strategies and Games in Networks," in Managing Complex Networks: Strategies for the public sector, W. Kickert, E-H. Klijn, and J. Koppenjan, eds. London: Sage. 98-118.

Knight, L. (1997), "An Integrated Competence Framework: A confluence of business strategy and human resource management?", Proceedings of the British Academy of Management Annual Conference, London, 8-10 September.

Knight, L. and Harland, C. (2000) "Outsourcing: A National and Sector Level Perspective on Policy and Practice," in A. Erridge, R. Fee, J, McIlroy, (eds) Best Practice Procurement: Public and Private Sector Perspectives, Aldershot: Gower. Ch 6 55-62.

Knight, L. and Harland, C.M (2000), "Managing Supply Networks: Organizational Roles in Network Management," Proceedings of the British Academy of Management Conference, Edinburgh, September, 13-15.

Millman, A. F. and Wilson, K. (1999), "Developing Global Account Management Competencies," in D. McLoughlin and C. Horan (eds.) Proceedings of the 15th Annual IMP Conference, University College, Dublin.

Munro, A. and B. Andrews (1994), "Competences: Dialogue without a plot?," Executive Development, 7(6), 12-15.

Nohria, N. and Eccles, R. eds. (1992), "Networks and Organizations: Structure, form and action". Boston: Harvard Business School Press.

Spencer, L. and S. Spencer (1993) , Competence at Work - Models for superior performance. John Wiley & Sons, New York.

Van Weele, A. (1994), "Purchasing Management: Analysis, Planning and Practice," Chapman and Hall.

Weick, K. (1979), The Social Psychology of Organising. Wokingham: Addison Wesley.

Womack, J.P, Jones, D.T. and Roos, D. (1990), The Machine that Changed the World Macmillan International.

Woodruffe, C. (1992), "What is meant by a competency?", in Designing and Achieving Competence: A competence-based approach to developing people and organizations, eds. R. Boam and P. Sparrow. McGraw-Hill, London. 16-30.

Zheng, J., Harland, C. Johnsen, T. and Lamming, R. (2001), "A Taxonomy of Supply Networks," Proceedings of the 10th Annual IPSERA Conference, Jönköping, Sweden, April 8-11, 895-908.