Partnerships in UK Defense Procurement

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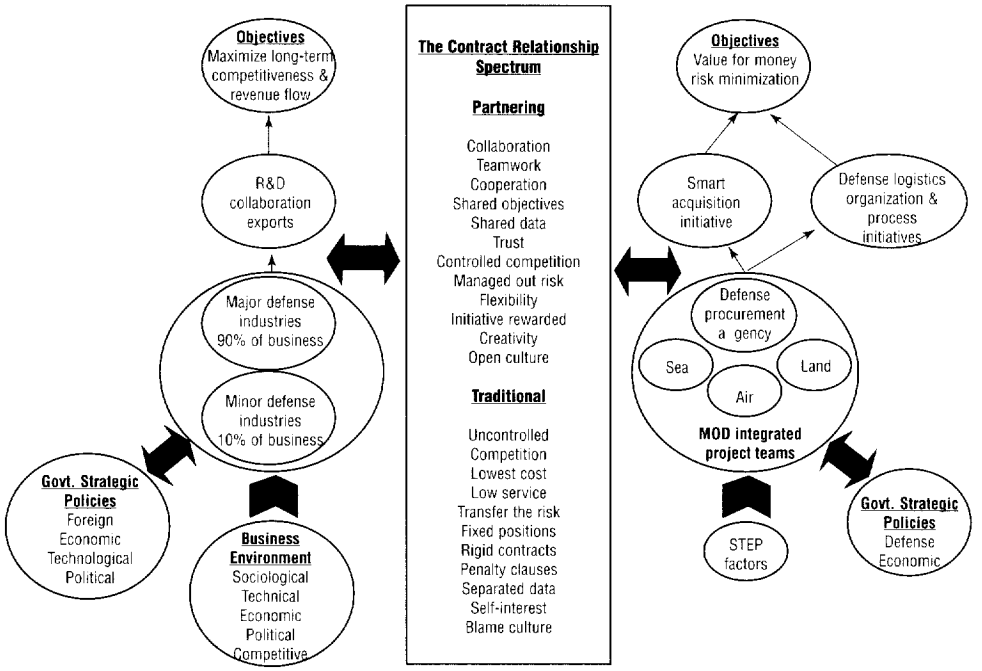
Since the 1998 Strategic Defense Review, the UK Government reversed its competition policy and now seeks to improve defense procurement relationships with industry through partnering. However, at a time when the defense industries are concentrating and globalizing and more and more of the large contracts are being managed under monopoly conditions, substantive relationship improvements are hard to find. The author's propose that a Transaction Cost Economics Market Failure model provides insights into solving the defense procurement problem by focusing the combination of supply chain factors, which result in successful partnerships within a sustained monopoly. The results of a pilot project justify the approach and suggest that the main program will both extend knowledge in an area that has received little attention by management researchers and also offer practical guidance to managers.

The relationship between the Ministry of Defense (MOD) and the UK defense industries has historically been a difficult one and has more often than not been characterized by the adversarial end of the spectrum (see Figure 1). With equipment expenditure of £10, 082 million in 2000/01 [1], the MOD has immense power as British industry's largest single customer and can determine the "size, structure, conduct, ownership and performance of the industry through pricing, profitability, technical progress and exports" [2]. On the other hand, the industry is a major exporter and contributor to the UK's balance of payments. By extending production for foreign sales, it reduces MOD's equipment unit costs; and, it has a key role in developing strategically important technologies such as aero engines. Finally, the major companies such as British Aerospace Systems, Rolls Royce, VSEL and Royal Ordnance, who are virtual domestic monopolies, have considerable opportunity to team with foreign companies to further reduce competitive forces although enhancing their international competitiveness. Thus, the relationship between the MOD and its industrial suppliers is dominated by a small numbers market in which there are significant degrees of monopoly power on both the supply and procurement sides of the market and where historically, lack of trust has reduced efficiency and value outcomes [3].

Given an understanding of the environmental pressures imposed by a monopoly market, it is possible to determine the business and behavioral factors that may be employed to improve business-to-business relationships.

In this paper, the question of how to improve sustained economic relationships within UK defense procurement in a monopoly market is addressed. Given an understanding of the environmental pressures imposed by a monopoly market, it is possible to determine the business and behavioral factors that may be employed to improve business-to-business relationships. We first consider the relationship situation within defense procurement and then trace the development of supply chain management and its relational characteristics. We finally propose a research strategy, which as well as providing defense procurement managers with new insights on how to improve their business, will also extend the body of knowledge by broadening our understanding of supply chain relationships within the UK defense sector.

Figure 1
The UK Defense Procurement Environment



Source: Adapted from HC 138-1, "The Strategic Defense Review – Report," *Eighth Report from the Defense Committee - Session* London, England: Stationery Office. 1998.

Defense Procurement

Superpower politics, nuclear deterrence and the arms race overshadowed the years of the cold war until 1989 where the clearly defined threat from the Warsaw Pact provided a period of stability for UK's armed forces. The logistics imperative was high readiness using large stockpiles; cost optimization was not important. Relationships with industrial suppliers were shaped very much by the political requirement to support domestic companies, R&D and strategic technologies. As a result, the British defense industry enjoyed good profits through cost-plus development contracts and non-competitive, cost-based contracts for production. However, the MOD was not a demanding customer and value for money was low, quality was poor and contracting relationships lacked trust and were epitomized by costly, cancelled projects. The geo-political transformation that followed the fall of the Berlin Wall allowed the government to refocus its defense expenditure on less costly, low intensity operations and to reap "peace dividends" from reduced support costs. Thus, between 1985 and 1997 spending on equipment reduced by 40%, by 45% on R&D and defense industry employees fell by 50%. Half of these job losses occurred between 1990 and 1995 [4] reflecting the shake out following the end of the cold war.

The impact on the defense industries of reduced government spending and the loss of the cozy relationship through increased competition and opening up the market to foreign companies was cataclysmic. Radical downsizing, concentration, and collaboration characterized the period with other companies and efforts to reduce over-capacity continue to this day. In consequence, bad feelings became fixed in the defense industry culture and reduced its capacity to enter into trusting contractual relationships with the MOD.

Over the last ten years, the MOD has been driven relentlessly by operational, financial and political pressures to become smaller, flatter and more flexible by using outsourcing, rationalization, redundancies

and stock reduction programs [5]. Unfavorable public accounts committee and national audit office reports have driven the pace of change. Measures to increase the number of competitive contracts, to focus on life-cycle costs, to reduce specification rigidity (cardinal pints specification), to promote more cost effective operations (competing for quality) and to open up defense activities to external funding (private finance initiative) have been initiated. From 1994, the formation of multi-disciplinary groups brought together formerly disparate teams of engineering, procurement, commercial and finance personnel to improve the in-service support and new weapon systems procurement functions. In 1998, the Strategic Defense Review [6] gave the procurement executive agency status to improve its accountability and the three services' separate logistics departments were amalgamated into a single defense logistics organization to improve efficiency. The Smart Procurement Initiative, under the motto "faster, cheaper, better", was also launched and introduced the concept of integrated project teams to bring about further process improvements through increased delegation, a clearer customer focus within the MOD and abbreviated financial approvals. Lastly, smart procurement has recently been broadened from procurement and support to include the earlier stage of requirement definition and is now called Smart Acquisition [7].

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Against this background, in the 1999 Defense White Paper [8] the government made a clear statement of policy that its smart procurement initiative depended heavily on the concept of partnership in order to reap the benefits of competition and collaboration. The concept of partnering had already been acknowledged by the private sector as "best practice" in managing customer/supplier relationships to achieve mutually beneficial results [9]. The MOD believed that partnering would allow it to overcome the adversarial relationships within a defense market containing few competitors [10]. Despite clear strategic intentions, the practical implementation of partnering arrangements by the MOD has been slow, patchy and clouded by uncertainty over ways and means. Furthermore, the fundamental differences of aims by both sides appear to make the selection of common objectives difficult and problematic. Overcoming these difficulties is the business problem faced by MOD's integrated project teams and their industrial suppliers and although considerable research has been done in the area of supply chain relationships in the private sector, very little has taken place in the defense procurement environment.

Supply Chain Management

A summary of the drivers that lead to the adoption of supply chain management is provided; and, the potential benefits and pitfalls are identified before touching on practical implementation issues. The relational requirements of successful SCM implementation and especially the behavioral and attitudinal factors are examined. Finally, in the light of this review, the implications for MOD logistics are considered.

Search of Flexibility

It is important to understand that the concept of SCM evolved from logistics, which has both military and civil connotations. In NATO military terminology, this is the movement and maintenance of forces where maintenance involves functions including administration, medical, engineering, supply and transportation and where supply encompasses procurement and warehousing [11]. The process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from point of origin to point of consumption for the purposes of conforming to customer requirements is a more all embracing view from an industry perspective [12]. In essence, both these concepts represent a similar business planning and operational framework, but it is noticeable that relationships do not feature in either because interfaces with external agencies are seen as outside the scope of traditional logistics.

Strong business pressures in the last ten years including scarcity of resources, increased competition, globalization of markets, faster change and higher customer expectations have forced a radical review of the role of logistics. In the MOD, improved value for money has been the principal driver.

The importance of coordinated processes both up and down the supply chain and of concentration on interfunctional total costs, especially excessive inventory holdings, is identified [13]. The ability to gain flexibility through agility [14] offers a further, powerful concept to expand operational capabilities. Finally, the realization that customer service directly results from the combined effects of all the supply chain components and that SCM can provide a unique type of customer value have forced the pace to adopt SCM.

SCM is located between vertically integrated systems and those where the channel members operate completely independently; and, it aims to reduce inventory, to increase customer service reliability and build a competitive advantage for the channel. Through sharing information, it is possible to reduce uncertainty and therefore safety stocks, which lowers costs and order cycle time [15].

SCM Relationships

The integrated supply chain view uses a number of terms that indicate the need for closer relationships, including trust, commitment and collaboration between supply chain members to ensure success in these arrangements [16]. In fact, Perks and Easton [17] extend these ideas further by suggesting that SCM provides a business environment in which firms closely cooperate rather than compete to achieve mutual goals. Despite the availability of modern information systems, Macbeth and Fergusson [18] consider that the practice of managing supply chain players is wasteful of resources and drags performance backwards rather than promoting continuous improvement. Moreover, Cooper, et al., [19] believe that achieving true supply chain integration is "a lofty and difficult goal" because the importance of relationships to success entails considerable management problems that have to be surmounted to make them work effectively.

Because maintaining close relationships is very expensive in management effort, an early SCM measure is a decision to reduce the number of suppliers in the chain. The intention is to have no more partners than necessary and to work more closely, effectively and over the longer term with those who have the most critical impact on the overall operation [20]. Illustrative views of the business implications of this policy are shown in Figure 2.

As a result of more time spent interfacing with fewer suppliers, inter organizational alliances/partnerships evolve, which can focus on the whole supply chain rather than diluting each company's efforts through conflicting goals. Substantial integration of this nature is more than a change of scope; it is more significantly a change in attitude away from the adversarial attitude of conflict to one of mutual support and cooperation. Although cooperation and coordination are important success factors, a fully relational supply chain cannot be achieved without collaboration. It also provides a very real opportunity to focus on customer end value rather than transaction costs. Relational business arrangements that attempt to harness these principles are generically know as partnering.

Partnering for Supply Chain Success

Relational supply chain business dealings are given a number of labels, but generally they involve demand-led, integrated, inter-company relationships based on collaboration, which are focused on complex, problem solving [21]. Partnering is seen as a tailored business arrangement based on mutual trust, openness, shared risks and rewards that leverages the skills of each partner to achieve competitive performance not achieved by individual partners [22]. The importance of conflict resolution through joint-problem solving is also emphasized.

Figure 2
Continuums of Relationship Styles

Transactional			Relational	
Lowest price	Lowest landed cost	Lowest total cost to firm	Lowest last SC party cost	Highest value to customer

Transactional			Relational	
Arm's length	Small account	National account	Strategic alliance	Joint venture

Transactional			Relational	
Arm's length	Short-term partnership	Medium term partnership	Long-term partnership	Joint venture

Christopher [23] and Harrison [24] use the term co-makership to describe a seamless end-to-end pipeline or virtual corporation between the supplier and the customer based on high quality processes, cooperation, inter-dependence, openness, trust, commitment, shared goals, open information flows and long-term mutual benefits. Cooper and Gardner [25] describe interorganizational relationships consisting of enduring transaction flows and linkages that come about because of a variety of reasons including necessity (monopoly), asymmetry (a dominant partner), reciprocity (cooperation and coordination), efficiency (cost reduction), stability (risk reduction). Another view is of purchasing partnerships, which are defined as long-term, trusting agreements where the risks and rewards are shared [26]. Ellram and Edis [27] use very similar terms to describe collaborative buyer-seller relationships although they also mention the obligation nature of the arrangement to overcome opportunistic temptations. Macbeth and Fergusson [28] describe partnership sourcing (a CBI/DTI sponsored approach) and emphasize the importance of a change in mindset from the short to long-term to achieve the same outcome. Finally, a succinct description is "an arrangement where suppliers and customers are inextricably linked" [29].

In the final analysis, these views represent a holistic approach to managing the supply chain involving technology, process and information links and based on trust and long-term commitment with the ultimate aim of securing improved economic returns for all chain members. Nevertheless, it is important to warn about the dangers of misconceptions inherent in the use of a generic partnering concept and especially its implication of a common, ideal solution. Partnering contains a multitude of dimensions such that each business relationship needs to be tailored precisely to generate mutual competitive advantage. Finally, the importance of clear objectives at the outset and for regular, honest reviews is underlined. Marks and Spencer's sudden break away from its 30-year relationship with its clothing supplier, William Baird, during 1999 might not have been such a shock if this advice had been taken [30]. Having reviewed the diversity and complexity of partnering relationships, we next address key success factors required to under-pin close business relationships.

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Partnering in Practice

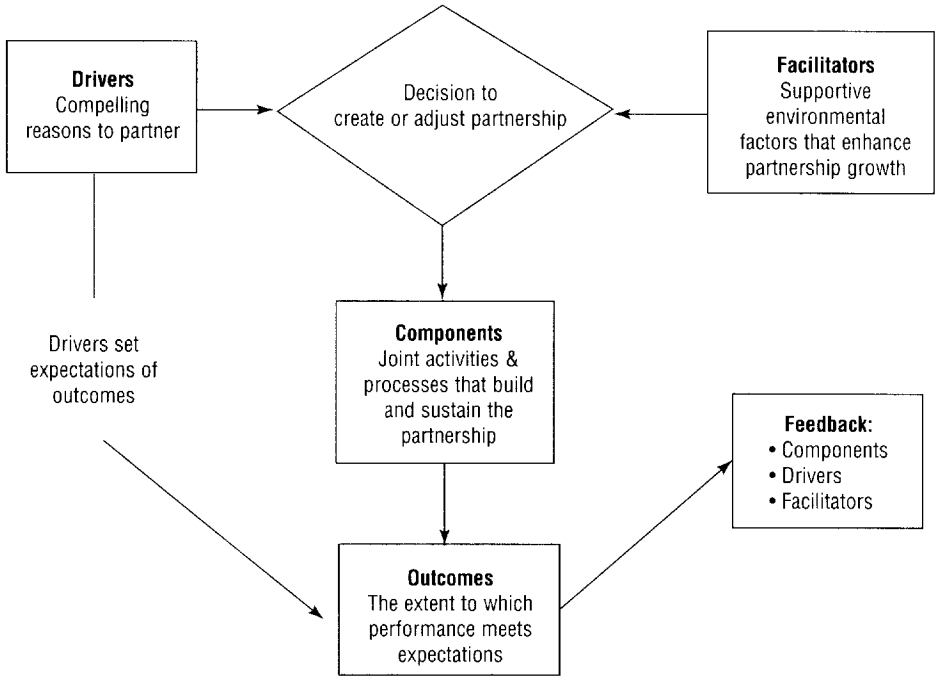
We use Lambert, et al., [31] partnering process model in Figure 3 as a means of illustrating the main partnering success factors. The drivers, compelling reasons to partner, have already been covered so we will cover the main factors, facilitators, that influence the mindset of potential partners.

At the outset, any suspicion resulting from previous bad or opportunistic behavior, which has created a sour atmosphere between the parties must be firmly laid to rest by an affirmation of future good conduct, which will be confirmed by later deeds. A second important factor is an understanding of the relative power/ dependence positions of the respective parties. The two by two matrix in Figure 4 puts this issue into perspective. It shows that where two parties are of equal strength, they have little option but to partner because they cannot otherwise co-exist peacefully and must work openly within their relative power/dependence positions to develop a successful portfolio of business relationships. At the partnership decision-point, it is important to understand the implications and specialized uses of the types of relationship that emerge. For instance, the parties should be wary of setting up a monopoly because of the risks associated with single sourcing and because of the attentions of the regulatory authorities.

The components include joint activities and processes that sustain the partnership. The supply chain literature reveals a comprehensive list of management actions required for partnering success. A summary is provided in Table 1. Additionally, a change in organization structure that facilitates improved communications between companies is recommended. This is known as the bow-tie/diamond perspective and is shown in Figure 5. It is likely that by following this strategy the traditional sales and purchasing departments may even disappear and their roles will change and grow into key account management and category management functions.

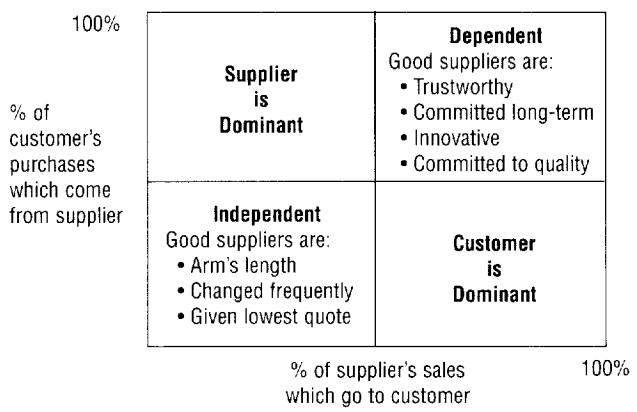
In summary, of the management actions needed to support partnering, it is clear that

Figure 3
The Partnering Process



Source: Douglas M. Lambert, Margaret A. Emmelhainz and John T. Gardner, "Developing and Implementing Supply Chain Partnerships," *The International Journal of Logistics Management*, Vol. 7, No. 2 (1996), p. 4.

Figure 4
Customer/Supplier Dependence Grid



Source: Rasmus Friis Olsen and Lisa M. Ellram, "Buyer-Supplier Relationships: Alternative Research Approaches," *European Journal of Purchasing & Supply Management*, Vol. 3, No. 4 (1997).

extensive, open, honest communications are key activities, however, these must be underpinned by the need to change mindsets and behaviors away from the traditional adversarial to a more accommodating variety.

Behavioral Factors

The supply chain literature does not extend deeply into sociological theory, but instead concentrates on describing those practical aspects of human relationships that

Table 1
Partnership-enhancing Activities and Processes

	Christopher (1997)[1]	Cooper & Ellram (1993)[2]	Cooper, et al. (1997)[3]	Cooper & Gardner (1993)[4]	Ellram (1991)[5]	Harrison (1990)[6]	Hulme (1997)[7]	Matthyssens (1994)[8]	Stevens (1989)[9]
Framework contracting	X	X			X	X	X		
Corp culture matching		X	X	X					
Long-term cost/investment sharing	X	X	X		X		X	X	X
Information sharing	X	X		X					X
All level management		X	X						X
Frequent, interactive communications			X	X	X	X		X	
Joint planning	X		X	X					
Cross firm controls & co-ord – teams	X			X	X				
Joint service level systems	X				X			X	
Technology sharing & product development	X				X	X		X	X
Joint problem solving					X	X		X	
Joint quality systems						X		X	
Linked IS	X					X			
Joint performance measurement						X		X	
Joint logistics & purchasing roles	X	X	X					X	X
Joint marketing	X							X	

Source:
1 Christopher, Martin, *Marketing Logistics*, Oxford, England: Butterworth-Heinemann, 1997.
2 Cooper, Martha C. and Lisa M. Ellram, "Characteristics of Supply Chain Management and the Implications for Purchasing & Logistics Strategy," *The International Journal of Logistics Management*, Vol. 4, No. 2 (1993), pp. 13-24.
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8 Matthyssens, Paul and ChristopherVan den Bulte, "Getting Closer and Nicer: Partnerships in the Supply Chain," Long Range Planning, Vol. 27, No. 1 (1994), pp. 72-83.
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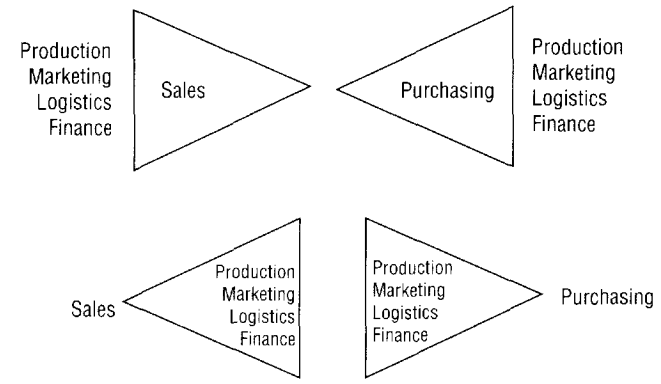
enable the operation of successful partnerships. There is a strong consensus that conventional thinking about relationships should be applied to improve the performance of existing partnering arrangements. Figure 6 encapsulates these views and the term trust is mentioned as an essential component.

Trust is a complex term, but is simply defined as a cyclical process of making commitments, following them through and communicating the results. The more complete and frequent the cycle, the more impressive the commitment and the greater the trust. There is also the suggestion that loyalty is an important factor, however, trust may take a long time to grow and can be destroyed by one stupid action. Olsen and

Figure 5
Bow-Tie vs. Diamond Perspectives



Source: Martin Christopher, *Marketing Logistics*, Oxford, England: Butterworth-Heinemann, 1997.

Figure 6
Paradigm Shift in Relationships

Traditional		Partnering
Suspicion & mistrust; each party wary of the other's motives.	→	Mutual trust forms basis of strong working relationship.
Each party geared to what is best for them.	→	Shared goals & objectives ensure common direction.
Communication structured & guarded.	→	Open communication avoids misdirection & bolsters effective working relationships.
Single project contracting.	→	Long-term commitment provides opportunity for continuous improvement.
Objectivity limited due to fear of reprisal.	→	Objective critiques geared to candid performance testing.
Mistakes lead to retribution.	→	Create atmosphere where both parties initiate ideas & changes.
Limited organizational access; structured procedures, self-preservation rather than optimization.	→	Organizational access & sharing resources.
Involvement limited to project personnel.	→	Total involvement at all levels.
Blame & buck passing.	→	Team problem solving.
Arm's-length - at worst, adversarial relationship.	→	Nurture relationship.

Source: Adapted from Lisa M. Ellram and Owen Edis. "A Case Study of Successful Partnering Implementation," *International Journal of Purchasing & Materials Management*, (September 1996).

Ellram, [32] add that trust is the cornerstone of relationship commitment. It is, thus, clear that rapid communications mechanisms can prevent local problems from endangering the relationship, but it is just as important to build up a culture of "do as you say," sensitivity, dedication and goodwill [33]. Moreover, the importance of personal relationships cannot be ruled out and managers should understand that the tendency to "churn" (turnover) staff does not help in building and maintaining trust. Wilding [34] is more specific on the

importance of emotional intelligence (EQ) to the success of agile supply chain arrangements where trustworthiness means maintaining standards of honesty and integrity through close collaboration to build-up credibility. It is clear that a significant change in attitude at the organizational and personal levels is essential to the success of closer supply chain relationships.

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Most managers and academics are fully aware of the principles of SCM, but so often the espoused values do not meet the theory in use and successfully implemented examples are few. The main obstacle is motivating chain members and company staff by communicating a clear vision of the benefits to be achieved in an environment of great complexity and uncertainty. The key advice is to maintain simple objectives and exercise leadership in carrying them out [35]. It is also important not to overlook the importance of the feedback loops in the partnering process model in Figure 3 where without frequent, honest performance monitoring and problem solving, the new relationship will not gather momentum and achieve the intended benefits.

A Problem-Solving Approach

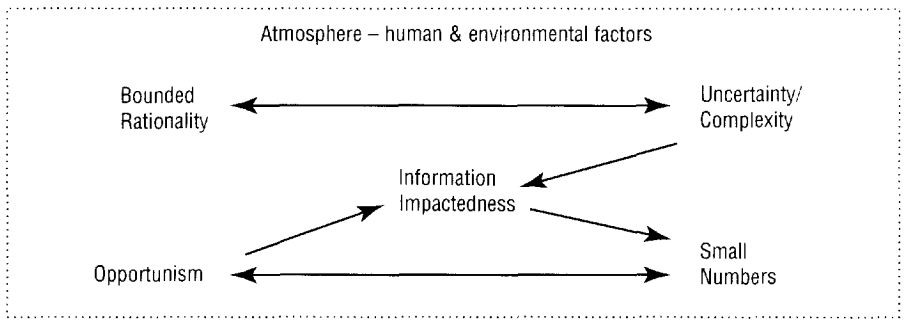
Thus far, we have identified the defense procurement business problem, considered the development and nature of SCM, examined the practical aspects of implementation and finally identified the relational factors that are essential for success. From a relational perspective, there are almost identical business drivers that persuaded the MOD and the commercial world to develop operational logistics into a holistic supply chain approach that demands closer relationships between partners. Although a considerable amount of best practice advice is available, the few examples of empirical research are found almost exclusively within the commercial environment and operating under normal market conditions. For the purposes of this research, it is essential to be able to relate supply chain relationships to monopoly conditions (i.e., where there are few or single buyers and sellers).

Transaction cost economics provides an explanation of the monopoly (small numbers) phenomenon where it is treated as a short-term, highly undesirable market aberration, which would normally be dealt with by government anti-trust regulation or the normal market pressures [36]. Although parties in this situation have options of voice and exit in the face of a monopoly, normally both parties will find themselves in a lose-lose situation because the management costs will be excessive [37] until a normal market is reestablished. Without the pressure of the market, monopolies tend to be prone to inefficiency, decay and flabbiness because costs are poorly controlled and service quality is low. However, in the stable monopoly situation, which prevails in defense procurement, the opportunity to escape, even at a cost, is not available and the result is an impasse where neither side has the power or the motivation to improve the relationship [38]. Oliver Williamson's economic organization failure framework shown in Figure 7 illustrates this self-defeating situation:

Without the pressure of the market, monopolies tend to be prone to inefficiency, decay and flabbiness because costs are poorly controlled and service quality is low. However, in the stable monopoly situation, which prevails in defense procurement, the opportunity to escape, even at a cost, is not available and the result is an impasse where neither side has the power or the motivation to improve the relationship.

- *Bounded rationality:* Herbert Simon's [39] concept suggests that people have only so much capacity to rationalize what is going on around them and naturally limit their aspirations to the adequate rather than the optimum.
- *Uncertainty/complexity:* Describes the difficulty people have of making sense of complex current and future events.
- *Information impactedness:* Results from both uncertainty/complexity and opportunism, which refers to the imbalance caused by selective information disclosures, and distortions which are difficult or expensive to verify at the time and which undermine the durability of contract arrangements [40].
- *Opportunism:* Lack of candor or honesty and includes self-interest seeking with guile. This factor can be especially debilitating if the exchange involves transaction-specific human and physical capital investments such as management time, skilled labor and IS links. These can either give one party excessive power over the other or because of the fear of loss, can lock a partner into the deal when he would rather leave [41]. Opportunism also contributes to information impactedness, where information is deliberately obscured.
- *Small numbers/monopoly market:* The reduction of business choices resulting from poor information leads to the need for sophisticated controls that are only found in

Figure 7
The Organization Failure Framework



Source: Oliver E. Williamson, *Markets & Hierarchies: Analysis & Anti-trust Implications*, New York, NY: The Free Press, 1975, pp. 39-40.

or close to the firm and, thus, may result in a failure of market conditions. Furthermore, this reduction in market power will interact negatively with business people's altruistic principles and, thus, help to perpetuate an unsatisfactory market. In these circumstances, partnership might be seen as *just another way of appeasing the customer with slightly less guile* [42].

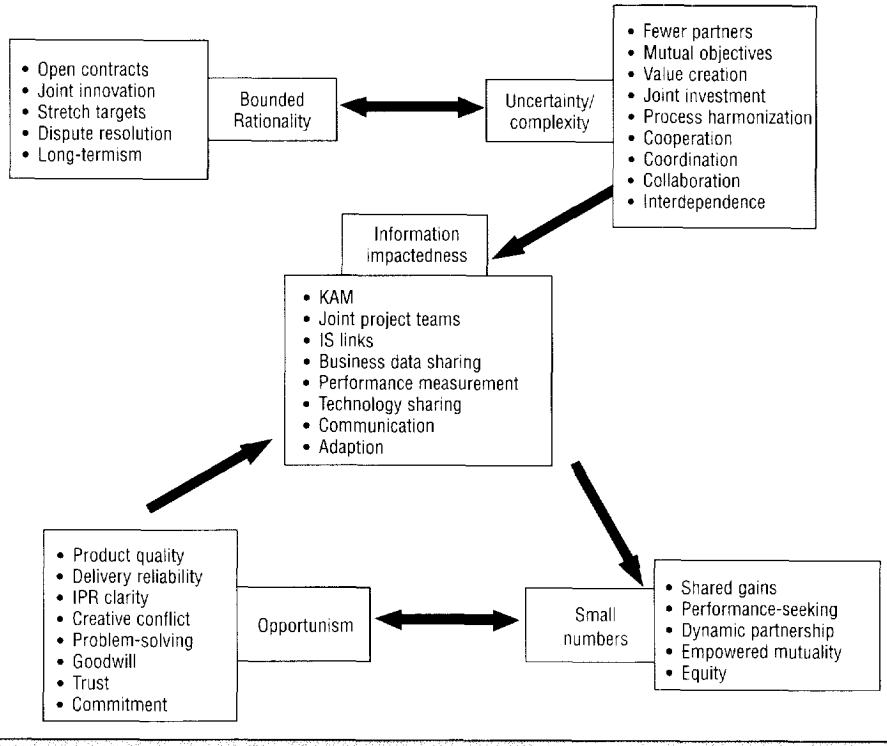
Although the authors can find no empirical research on the Williamson's economic organization failure framework, it seems to have face validity because the factors it represents are readily observable in the defense procurement situation. Our research strategy is, thus, to determine which combination of supply chain success factors are effective at reversing the unsatisfactory output of the monopoly model. An example of possible supply chain antidotes superimposed against corresponding factors in the economic organization failure framework is shown in Figure 8. This allows us to propose a conceptual research framework that could be tested by an appropriate methodology and answer the question: What factors influence the improvement of monopolistic relationships between the MOD and its main industrial suppliers? Although there are over 100 integrated project teams within MOD, time constraints mitigate against a research program of this size. Accordingly, the business relationships with defense industries of the 54-defense logistics organization, integrated project teams have been selected. These represent mature, support arrangements within established monopolies. The researchers intend to capture data about the supply chain business relationship from the staff on each side and to map it onto the conceptual framework. It is hoped that, in addition to testing Williamson's model, it will be possible to identify best and worst practices and those factors that bring relationship success. There will be immense practical benefits if it is possible to help defense procurement managers to improve the performance of their business.

Conclusions

A pilot project has been carried out, which examined both industry and MOD perspectives of a current, defense procurement relationship. This was a true monopoly worth $40 million per year for the purchase of aircraft spare parts and the provision of repair services. Using the theoretical framework in Figure 8, a questionnaire containing 37 questions was designed around the five dimensions:

- Bounded rationality - *creativity:* promoting quality, innovation and long-term approach by encouraging high performance.
- Uncertainty/Complexity-*stability:* synchronization of objectives and confidence building.
- Information impactedness- *communication:* shared data environment, openness, common performance measures, and frequent interaction.
- Opportunism - *reliability:* concentrating on

Figure 8
A Conceptual Framework for Research – Williamson's Economic Organization Failure Framework with Supply Chain Success Factors



The research highlighted a significant mismatch of views where one party believed the other was dedicated to improving service quality (creativity) whereas the subject considered this was a fruitless exercise, which would not even be recognized within the low performance expectations of the first.

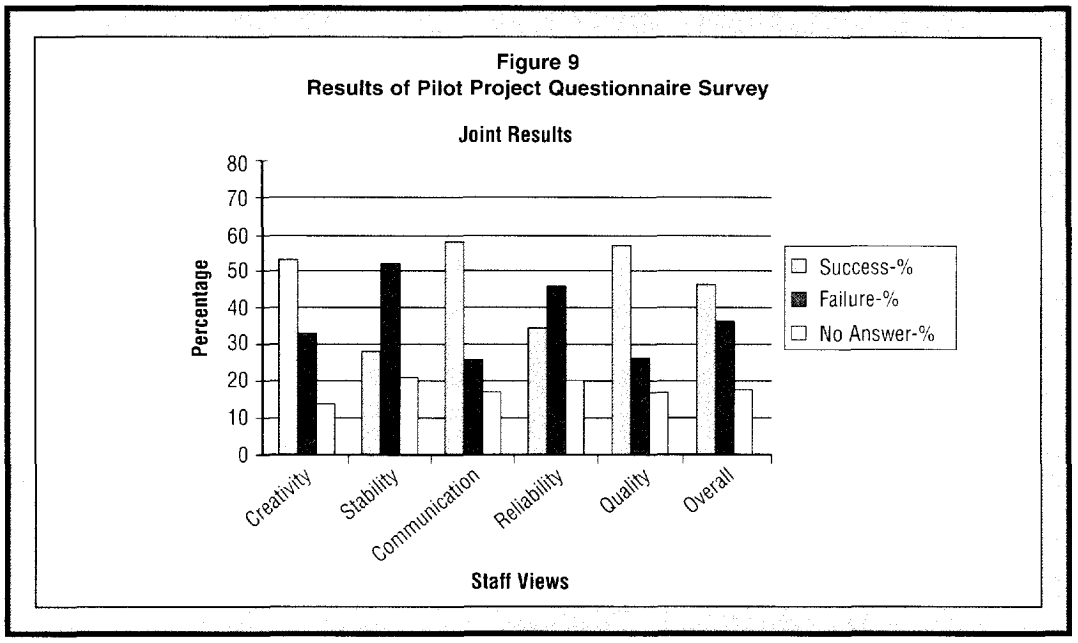
service and product delivery, lowering joint costs and risks, building up trust.

- Small numbers - *quality:* creating a win-win relationship in which each side is delighted to be a part.

and both team leaders and their staffs completed these – a total of 50 respondents. The survey was followed-up by 30 minute semi-structured interviews with the two team leaders in order to add richness to the data already captured. The joint statistical results are summarized in Figure 9 and indicate that the overall relationship satisfaction level is only 47% and that the scores of the five dimensions are neither uniformly optimistic nor pessimistic. However, the lowest scoring aspects (stability and reliability) especially highlight a mutual lack of confidence and trust and explain the poor performance against the contract. Although the communication dimension rated 58%, both team leaders mentioned the poor quality of shared data and their fear that the other party would use honest performance figures as a weapon against them.

The research highlighted a significant mismatch of views where one party believed the other was dedicated to improving service quality (creativity) whereas the subject considered this was a fruitless exercise, which would not even be recognized within the low performance expectations of the first. Overall, they expressed feelings of helplessness at their inability to find ways to improve the relationship although one remarked that the other party's acknowledgement of poor performance in the survey was at least a start. This supports the 'zero sum game' implication of Figure 8 and our decision to use it as the theoretical framework for the research. The team leaders also mentioned that the detailed charts, which provided a comparison of the parties' views question by question had, for the first time, given them a clear perspective of the relationship and would allow them to start detailed discussions on improvement measures.

Although the results of the pilot project are very preliminary, they suggest that it is



indeed useful to view defense procurement monopolistic relationships through the selected theoretical lens and that supply chain and related concepts can be used to interpret the findings as long as care is taken to distinguish those aspects based upon free market assumptions. It is too early to say whether or not it is possible to generalize a combination of business relational success factors that might be effective in reversing the unsatisfactory outputs of the monopoly environment. Nevertheless, the authors believe that the extension of this exploratory research to a very substantial enterprise offers a most significant opportunity to empirically test supply chain theories in a business environment, which has received scant attention by management researchers [43].

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