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GARY SMITH, JANE LEWIS and ALAN SADLER

An investigation into the factors influencing partnering

Supervisors: DR Chris Rutherford and DR David Moore

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Abstract

The aim of this paper is investigate the factors that influence partnering. A selection of academic text was examined to inform this paper, and it was clear that partnering is not an easy option and takes a considerable length of time. It is also not always a desirable option to develop and engage in a partnership, depending on the requirements of each side of the partnership. It became increasingly apparent that partnering is the way ahead that the MoD wishes to adopt; this has been highlighted in several policy documents as well as through the recent formation of DE&S and its objectives.

A multiple case study approach was adopted to analyse the current partnering agreements between the MoD and industry. As a comparison, non-military organisations were also considered to see if lessons could be learnt that may be applicable to the defence environment. The information gathered form the many interviews conducted was used to analyse the current situation and identify alternative perspectives and barriers to partnering with the MoD. Initial findings of the study were also presented at an Availability Symposium, at which many industrial partners were present to give feedback and opinion.

The MoD appears to have an ad-hoc, unstructured approach to partnering; a lack of financial flexibility and accountability seems to hinder the development of relationships and hence value for both sides of the agreement. Although examples of good partnerships were found, this was mainly due to individuals in post at that point in time. The organisation of the MoD and the constant turnover of personnel are not conducive to developing strong partnerships. Industry has been active in developing innovative contracting solution; this was evidenced by offerings such as Project Helix, NISC and Airtanker. Other innovative solutions were found in non-defence industries such as MRO and Supply Orchestration, all of which appear to offer considerable benefit in the right context. However it became increasingly apparent that there is no one size that fits all solution.

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List of Abbreviations

ASTOR	Airborne Stand Off Radar
CAPS	Commodity Availability Procurement Strategy
DE&S	Defence Equipment and Support
DIS	Defence Industrial Strategy
DLO	Defence Logistics Organisation
DPA	Defence Procurement Agency
DTS	Defence Technology Strategy
ISS	Integrated Support Solution
IPT	Integrated Project Team
MBA	Master in Business Administration
MoD	Ministry of Defence
MRO	Maintenance Repair Organisation
NG	Northrop Grumman
NISC	Nimrod Integrated Support Contract
PFI	Private Finance Initiative
PI	Performance Indicators
P&L	Profit and Loss
RAF	Royal Air Force
ROI	Return on Investment
RR	Rolls Royce
STC	Strike Command
Av & Air EW	Avionic & Airborne Electronic Warfare

1. Introduction

1.1 Introduction

1.1.1 Background

Against a background of cost overruns and late delivery the MoD has also been criticised for its failure to design weapon systems which can be cost effectively maintained. In response to such criticism the MoD has constantly evolved. In the last two years the government has introduced the Defence Industrial Strategy¹ (DIS) and the Defence Technology Strategy (DTS).² Within the MoD the study report, Enabling Acquisition Change³ has been published. To date many of its recommendations are being actioned with one particularly significant action being the merger of the DLO and the DPA to enable a more coherent approach to through life support of today's modern weapon systems.

A significant theme that stands out in this change is the MOD's quest to be the decider of what is needed with industry increasingly acting as the provider. Potentially, this approach has far reaching consequences. An extreme example at one end of the scale would be the direct commissioning of a militia or military capability. It appeared to work well in the 17th century for the East India Trading Company⁴ awhile even today there is debate on the use of Private Military Companies.⁵ It is unlikely that such an extreme is the intent of the UK Government.

"Mercenaries and auxiliaries are useless and dangerous; and if one holds his state based on these arms, he will stand neither firm nor safe; for they are disunited, ambitious and without discipline" Niccolo Machiavelli, The Prince.

However the DIS paves the way for increased general reliance on UK industry, with the potential for the burden to be placed on just two or three prime defence industry manufacturers. An advantage of such an approach is that the MOD may be able to form

an effective relationship with industry and work as partners to meet the needs of both defence and industry. Nevertheless there are some questions that need to be addressed:

- How much responsibility for the provision of military capability can be passed to industry?
- How would the partnering relationship work?
- Is it good sense to entrust military capability to only a few industry partners?
- What alternative models are there for the provision of military capability?

At this stage, a definition of partnering seems appropriate to set the scene for this project:

‘Partnering is a commitment between two or more parties in a collaborative relationship to create value by striving to achieve shared competitive goals and operational benefit through a spirit of mutual trust and openness’.⁶

1.1.2 Aim

The aim of this paper is to investigate the factors that influence partnering by reviewing and analysing literature, current contracts and partnering arrangements between the MoD and its industrial partners. In addition relationships outside the defence sector will be considered as a comparison. This multiple case study project is hoped to enable the authors to make recommendations to promote more effective partnering.

1.1.3 Enabling Objectives

In order to meet this aim, the following is required:

- Review of previously published material on partnering and the available literature that looks specifically at partnering within defence.
- Assessment of current contracting practices within defence through interviewing those in influential positions in both the MoD and Industry.

- An alternative view in terms of partnering, from an industry outside defence to enable comparisons to be made
- Identification of the factors that influence partnering.
- Identification of key recommendations and areas where further research may prove beneficial.

1.2 Research Methodology

1.2.1 Introduction

Research can be defined as “a focused and systematic enquiry that goes beyond the generally available knowledge to acquire specialised and detailed information, providing a basis for analysis and elucidatory comment on the topic of enquiry.”⁷ This definition provides a good starting point to discuss this research, as it is intended to expand or add to the knowledge that is already available in this field of study. There are several methods of conducting research and a few of them will be explored in this chapter with a view to provide a basis for the research methodology.

1.2.2 Aim

This section aims to describe the research methodology employed in conducting this project. It will explain to the reader the rationale for choosing this particular style of research methodology whilst also discussing some of the limitations involved with using it. It will also place this research type in the wider context of research methodology.

1.2.3 Methodology

In simplistic terms there are 2 main types of research philosophies, phenomenological and positivistic. The positivistic philosophy is based on the philosophical stance of the natural scientist.⁸ It “originated in the 19th century as an attempt to apply the methods of the natural science to the social phenomena”⁹ In comparison, the approach which is

contrary to that of the positivistic, phenomenological, is; “a philosophy that is concerned with the question of how individuals make sense of the world around them, in particular, the philosopher should bracket out preconceptions in his or her grasp of that world.”¹⁰ The notion of phenomenology is based on the work of Alfred Schutz (1899-1959).¹¹ A phenomenological researcher “views human behaviour as a product of how people interpret the world”¹² It relies on the researchers seeing things from another persons point of view.

The difference between the phenomenological and positivistic approach can also be described in terms of positivistic relying on quantitative data and phenomenological relying on qualitative data.

1.2.3.1 Quantitative vs Qualitative

“Qualitative research usually emphasises words rather than quantification in the collection and analysis of data. As a research strategy it is inductivist, constructivist and interpretivist, but qualitative researchers do not always subscribe to all three features.”¹³

“Quantitative research usually emphasises quantification in the collection and analysis of data. As a research strategy it is deductivist and objectivist and incorporates a natural science model of the research process (in particular one influenced by positivism), but quantitative researchers do not always subscribe to all three of these features.”¹⁴

“Qualitative research takes the view that it is very difficult for researchers to stand back and be objective, since they are really part of the process being researched.”¹⁵ It is usual for data to be collected in the form of descriptions when a qualitative approach is used. This can however also be the case for quantitative research but the difference is that mathematical procedures are often used to explain results when a quantitative approach is being adopted. The use of interviews is very common in the qualitative approach and is often used as the source of information to begin to understand behaviours within organisations, groups or between individuals.

For this research project into how far partnering between the MoD and industry can go, it was believed that the best approach was qualitative or phenomenological. This approach was deemed to have several advantages as it allows the researchers to gain a deeper understanding of the context in which the partnering relationships were being established. The multiple case study approach adopted for the study was not suited to a quantitative approach as the holistic view that was required was not easily quantifiable or measurable. The researchers also wanted to maintain a degree of flexibility throughout the process to ensure that different avenues could be explored during the course of the project if interesting points arose.

Although a positivistic approach could have been adopted for this study using a questionnaire approach and assessing results in a mathematical fashion, the researchers were keen to gain a deeper understanding. This deeper understanding was sought by getting different peoples point of views as this was likely to be a better reflection of what the actual situation was regarding partnering agreements.

1.2.3.2 Advantages and Limitations of the Phenomenological Methodology.

The use of a phenomenological approach enables the gathering of information and data that has a personal content and this can make it easier to dig deeper for information that is below the surface. Another advantage of the phenomenological approach is that it can be effectively used with a relatively small sample for information gathering.

There are however limitations to this approach which must be considered when analysing the data that is gathered. The personal information that is often gathered is subjective and can not therefore always be applied to more generalised points. It can also lead to difficulty in substantiating some of the ideas that are developed with the research. This also leads onto the problem of reproduction of the results; another researcher may find it difficult to replicate and test the findings of the study.

1.2.3.3 Approach Adopted

Following consideration of the research options available, it was clear that the phenomenological or qualitative approach would best suit the type of project we were undertaking. It was decided that a case study approach was best suited to ensure that we were able to get the required information from both sides of the partnering agreements. The remainder of this chapter will focus on the case study method of research and how we propose to use it to gather relevant information required for the analysis to be in depth and lead to valid conclusions and recommendations.

1.3 The Case Study

Robson et al defines a case study as “a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence.”¹⁶ For this project specifically it was important that the information that we collected was within the real life context as otherwise the validity of the conclusions following assessment of the partnering arrangements would be questionable. As Morris and Wood (1991) State “The case study strategy will be of particular interest to you if you wish to gain a rich understanding of the context of the research and the processes being enacted.”

To assess the extent to which partnering could be developed between the MoD and industrial companies, it was felt pertinent that several current partnering arrangements should be assessed, both from the perspective of the customer and the supplier. With this in mind, a multiple case study methodology to investigate the current trends appeared most appropriate. As stated by Yin “the analytical benefit of having two (or more) case studies may be substantial.”¹⁷

Yin also highlights that “The case study method allows investigators to retain the holistic and meaningful characteristics of real life events – such as individual life cycles, organisational and managerial processes, neighbourhood change, international relations and the maturation of industries.”¹⁸

Figure 1-1 shows a process that can be followed for a multiple case study method where the red arrow indicates a feedback loop. This ensures that the case studies are gathering the required information and that the original methodology is still applicable.

Adaptation at each stage may be necessary if the information gathered is not proving to be useful.

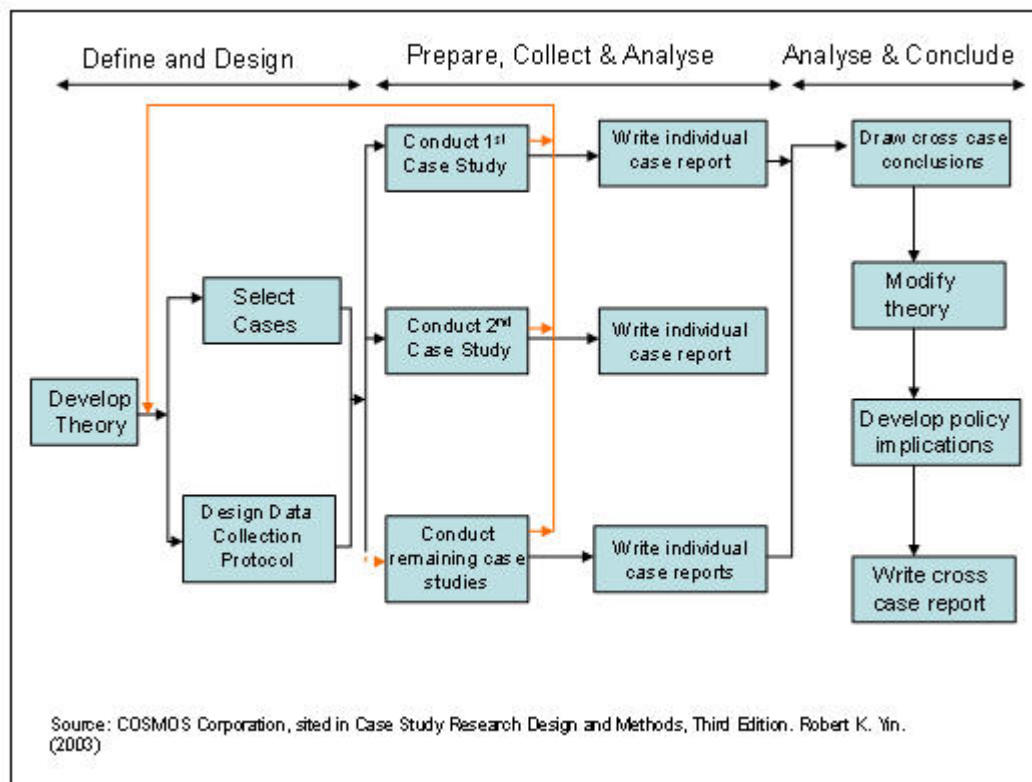


Figure 1-1 – Case Study Method

The following points highlighted by Yin also describe the rationale behind the case study approach; the case study inquiry:

- Copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result
- Relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result
- Benefits from the prior development of theoretical propositions to guide data collection and analysis.¹⁹

1.3.1 Data Collection

Primary Data

The primary source of data collection was mainly focused on interviews with individuals in key roles within organisations involved with partnering with the MoD as well as some outside the defence sector. Interviews were conducted in a semi structured fashion, with information and feedback from earlier interviews providing guidance for the structuring of later interviews. As well as looking specifically at defence contractors, those within the Integrated Project Teams (IPTs) were also interviewed to ensure that both sides of the story were captured. In addition to interviewing key personnel, the authors presented the early findings of the research at an availability symposium held at Shrivenham. This provided an ideal opportunity to get a varied perspective on partnering and contracting for availability. It also identified many stakeholders who were later approached for further interviews.

Secondary Data

Secondary data collection was done in the form of a literature review; literature from the field of partnering, supply chain management and project management was researched. This was to enable the authors to get a basic understanding of the current academic thinking behind partnering and how far it can go. In addition to the academic literature, policy documents from the MoD were also used as a reference source for further information along with reports and journal articles.

Interview strengths and weaknesses

The interview technique was chosen as the preferred method of primary data collection in this project as it was felt that this would provide the best indication of the actual situation within the organisations in terms of partnering. The face to face interaction with key personnel within the organisations would allow misunderstandings to be cleared up immediately and either side could question what was not understood.²⁰ The

semi-structured approach allowed the interviewer to adapt questions and discussion in order to address the issues that arose during the course of the interview.

The down side of conducting interviews is that they are obviously time consuming, but there is also the problem of bias, reliability and validity which must be considered throughout the interviewing process.²¹ The interviewee may not always portray an accurate picture of the actual situation and this must be taken into consideration; the inclusion of personal views must be carefully managed when evaluating the information gathered. The demeanour and suspicion of the interviewer along with the conduct of the interview can also lead to results that may not be a true representation of the actual situation. Confidentiality is another important factor to consider whilst conducting the interviews.

Interview Questionnaire Construction

A basic questionnaire was constructed and when possible passed to the interviewee in advance. The basic questionnaire is at Appendix 1, however it must be noted that it was adapted slightly according to the company or IPT being interviewed. It was not intended to be a strict running order, but more of a guidance to ensure that all the relevant points were covered. Questions were deliberately open ended to avoid any bias from the interviewer and also to allow the interviewee to respond as they saw fit. Interviews were conducted in the interviewees' place of work which facilitated a relaxed approach and also the inclusion of different individuals in the interview at the last minute based on their experience and background in specific partnering arrangements.

Interviews were fully written up no longer than 24 hours following the interview to ensure that the information was as accurate as possible. These notes were passed back to the interviewee for confirmation that what was written was a true reflection of what they had said in the interview.

1.3.2 Methodology Summary

The research methodology used for this project was based on a phenomenological approach; this was deemed to be the most appropriate given the requirement to get a deep understanding of different partnering approaches within different contexts. A multiple case study approach was adopted as it was felt necessary to assess different partnering arrangements within the defence and commercial sectors. Data collection was primarily based on semi-structured interviews with key personnel.

Secondary data was collected in the form of a review of the literature regarding partnering; books, journal articles and MoD reference documents formed the basis of this research. The semi structured nature of the interviews conducted provided a rich source of information for later analysis, which was also facilitated by the face to face approach that was adopted for all interviews.

The authors also presented their initial findings at an availability symposium they attended at Shrivenham; this provided a rich source of information as well as access to a network of influential people in the partnering arena, some of which were approached at a later date for interviews.

1.4 Outline of the Paper

Following the determination of the research methodology, information was gathered initially in the form of a literature review. The literature review covered many areas of interest to gain a thorough understanding of what was being investigated. Following this, interviews were conducted with those involved in partnering relationships, both on the civil and military side. In addition to gathering information from interviews, the authors presented the initial finding of their research at an availability symposium at Shrivenham. This allowed initial thoughts to be tested with a captive audience.

The initial thoughts included a model that the authors constructed in an attempt to be able to assess partnering agreements and make recommendations based on where various systems and platforms sat on the model.

1.4.1 Analysis of Data

Following the gathering of all the data, analysis of that data took place to begin to understand and address the aim of this paper. This analysis attempted to recognise what stages in the progression of partnering could be identified and what models were currently in use, both in the civil and defence sectors. Having identified the models in use, the next challenge was to assess the reason behind their construction and how this linked to the operating environment and partnering format. Finally, assessing what makes the contracts a success was of primary interest along with whether a trend in contracting and/or partnering could be identified.

1.4.2 Potential Barriers

Following analysis of the data and discussion of the findings, the barriers that might prevent the MoD from entering new styles of partnering arrangements were considered. Several areas were addressed in discussing the potential barriers to partnering; these included, relationships, financial and governance issues, accountability, trust, culture, risk management and people management.

1.4.3 Conclusions and Recommendations

Having discussed and analysed the data gathered in attempting to answer the question of how far partnering can go, some conclusions could be drawn and recommendations made based on the findings of this study. It was clear from the beginning of this study that partnering was never an easy option and getting it right was also not going to be easy. Although our conclusions do not provide hard and fast answers to all the questions regarding partnering, several points have been highlighted that may provide alternative ways of working that may lead to greater success in the future. Given the relatively small amount of research that has been conducted in this field, several areas for further research have also been recommended.

¹ DIS, white paper. December 2005.

² Defence Technology Strategy for the demands of the 21st century. MoD 2006

³ Enabling Acquisition Change, McKane

⁴ <http://www.sscnet.ucla.edu/southasia/History/British/EAco.html>

⁵ <http://www.informationclearinghouse.info/article3396.htm>

⁶ Definition obtained from <http://www.pslcbi.com>, on 30 August 2007

⁷ White, B. (2000) *Dissertation Skills for Business and Management Students*

⁸ Saunders, M., Lewis, P. and Thornhill, A.(2007) *Research Methods for Business Students*. Fourth Edition.

⁹ Smith, (1983) URL: <http://www.osra.org/itlpj/kimspring2003.pdf>

¹⁰ Bryman, A. and Bell, E. (2007) *Business Research Methods*. Second Edition. Oxford University Press

¹¹ Bryman, A. and Bell, E. (2007) *Business Research Methods*. Second Edition. Oxford University Press

¹² Bogdan and Taylor 1975, cited in Bryman, A. and Bell, E. (2007) *Business Research Methods*. Second Edition. Oxford University Press

¹³ Bryman, A. and Bell, E. (2007) *Business Research Methods*. Second Edition. Oxford University Press

¹⁴ Bryman, A. and Bell, E. (2007) *Business Research Methods*. Second Edition. Oxford University Press

¹⁵ White, B. (2000) *Dissertation Skills for Business and Management Students*

¹⁶ Saunders, M., Lewis, P. and Thornhill, A.(2007) *Research Methods for Business Students*. Fourth Edition.

¹⁷ Yin, R. K. (2003) *Case Study Research Design and Methods*. Third Edition. Sage Publications.

¹⁸ Yin, R. K. (2003) *Case Study Research Design and Methods*. Third Edition. Sage Publications.

¹⁹ Yin, R. K. (2003) *Case Study Research Design and Methods*. Third Edition. Sage Publications.

²⁰ White, B. (2000) *Dissertation Skills for Business and Management Students*

²¹ White, B. (2000) *Dissertation Skills for Business and Management Students*

2. Literature Review

2.1 Introduction

This project was conducted to further explore the notion of partnering within defence. The popularity of partnering has been steadily increasing over the past few years, as it has become apparent that working together can bring mutual benefits to both sides of the partnering agreement. With shared benefits also comes shared risks; this is an area that can create large benefits and reduce costs for both organisations as risks can be assigned to the party that is best able to deal with them, with the ultimate aim of gaining competitive advantage.

2.1.1 Aim

This chapter aims to explore the literature available regarding partnering with a view to provide a basic understanding of the concept of partnering. It is also crucial that the MoD's perspective on this is known, therefore MoD policy documents will be assessed to ensure that the researchers have a good understanding of the route that the MoD wishes to take in terms of partnering.

2.1.2 Overview

This chapter will begin with exploration of some of the MoD policy documents that provide guidance to both industry and the MoD on the way ahead for coming years. This will be followed by a review of the literature available regarding partnering and some of the models that may be useful for this study. Little research has been conducted looking specifically at partnering within defence, however what has been done will be explored to gain a better understanding of partnering within this context.

2.2 Defence Policy

2.2.1 Strategic Defence Review

The Strategic Defence Review was carried out in 1998 and highlighted the need for the MoD to reassess its procurement strategy. “One of the first conclusions to emerge from the Strategic Defence Review was the need for a radical reappraisal of the way we carry out defence procurement”¹ Smart Procurement was an initiative announced in July 1997 with the aim of improving the processes involved in the defence procurement cycle. With consistent late delivery of projects, this led to poor value for money for the tax payer as well as having operational implications. The length of the procurement cycle also meant that the MoD was struggling to keep up to date with new technology; it was hoped that the smart procurement initiative would update the current processes and go some way to meeting the challenges of the future.² The adversarial relationships traditionally associated with the MoD and its suppliers were hoped to soon be a thing of the past as partnering approaches were encouraged and supported.

2.2.2 Defence Industrial Strategy

Following the publication of the Defence Industrial Strategy (DIS) in 2005, it was clear that the MoD was serious about building strong relationships with industry. “Central to the DIS is a recognition of the need to develop much closer relationships with our industrial suppliers, with a view to promoting closer working, greater trust, increased partnering and a sense of mutual endeavour.”³ This statement clearly encapsulates the intent of the MoD to work closer with industry and create strong long term partnering arrangements. This realisation that partnering is the best approach was also highlighted in the Defence Acquisition Policy Paper, “With industry increasingly involved in providing long-term services to the MoD, we have recognised that a partnership approach, building reliable links with our suppliers, is often the best means of realising our goals.”⁴

2.2.3 Defence Equipment and Support (DE&S)

The formation of DE&S in April 2007, following the amalgamation of the Defence Logistics Organisation (DLO) and the Defence Procurement Agency (DPA) has also emphasised the importance of through life capability management and a partnering approach. This is emphasised in some of the objectives that the new organisation has set for itself:⁵

- Develop a strong and enduring relationship with industry that can unlock the potential of the industrial supply chain to optimise the provision of through-life capability for defence
- Embed a culture of continuous improvement of effectiveness, efficiency and safety across acquisition and logistics support, working on the basis of mutual understanding and trust with the sponsors, users, suppliers and other stakeholders

Having looked at the MoD stance on partnering, it is clear that it is strongly supported and deemed to be the way forward in terms of procurement strategy. The literature regarding procurement and partnering will now be discussed to get a clearer understanding of what partnering truly involves.

2.3 Partnering

This section will initially look at a procurement model that is useful in considering the appropriate purchasing strategy based on the relative strength of the customer and the supplier. Partnering models will then be explored to get a better understanding of the requirements for a successful partnering arrangement. Following this, the defence sector will be looked at specifically; studies that have already been carried out will be examined to gain a deeper understanding of the complexities and difficulties that are inherent within this sector.

2.3.1 Procurement

Kraljic was the first to develop a portfolio approach to Purchasing and Supply Management in 1983. In his portfolio matrix, products are classified on 2 dimensions, profit impact and supply risk. The resultant 2x2 matrix is shown in Figure 2-1. Kraljic (1983) argues that a different approach is required for each supplier depending on which part of the matrix they fall into. “Non-critical items require efficient processing, product standardisation, order volume and inventory optimisation. Leverage items allow the buying company to exploit its full purchasing power, for instance through tendering, target pricing and product substitution. Bottleneck items cause significant problems and risks which should be handled by volume insurance, vendor control, security of inventories and backup plans.” Strategic items require closer consideration as they are likely to have the biggest impact on profits and competitive advantage.

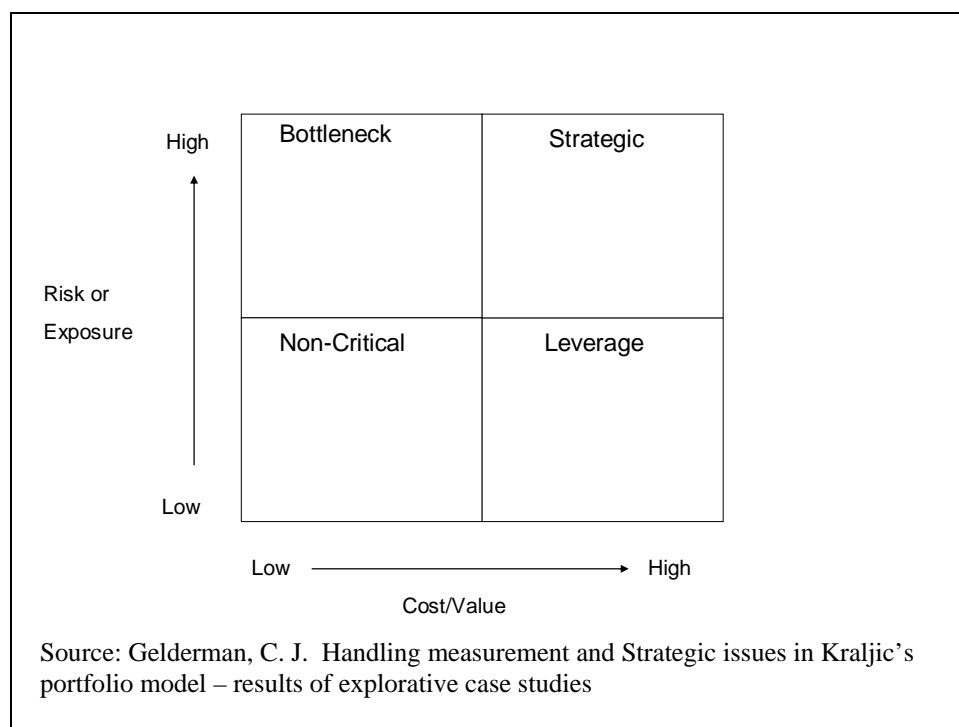


Figure 2-1 – Procurement Matrix

In addition to the 2x2 matrix, Kraljic (1983) also recommends plotting the strengths of the buyer against the strength of the supply market. From this, 3 power positions can be identified as shown in Figure 2-2 which lead to 3 supplier strategies, balance, exploit or diversify. The aim of this model is to minimise risk associated with supply and maximise buying power.⁶ Although his work is well accepted, it does have its limitations; the measurement of power is not explicitly addressed thus using the model may prove difficult unless a mechanism for measurement is established. Gelderman asks the question “what is meant by profit impact and supply risk?”⁷ Day (1986) also concluded that measurement is the Achilles heel for any portfolio matrix.⁸

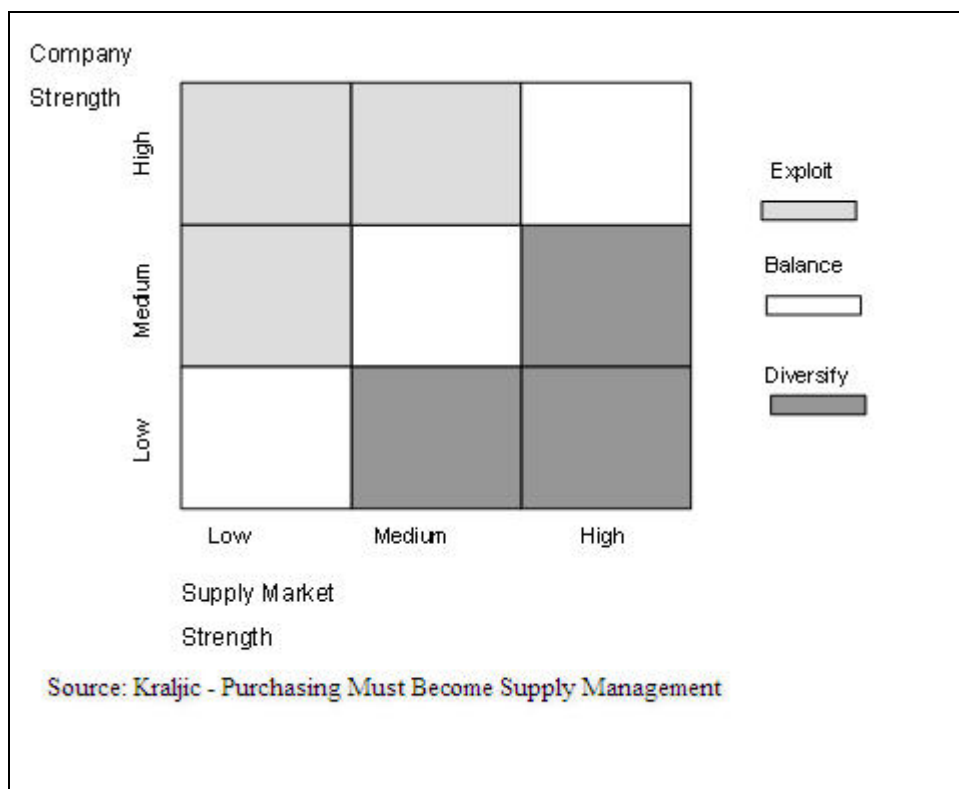


Figure 2-2 - Purchasing Portfolio Matrix

Having looked at the purchasing portfolio model, it would appear reasonable to conclude that differing strategies would have differing requirements in terms of partnering and relationship development. For instance, for non-critical items a close relationship with the supplier would not be crucial, however for the strategic items, it is likely to be far more important. With this in mind, a partnership development curve

will be looked at to appreciate the different points that need to be considered in building a strong relationship.

2.3.2 Partnership development curve

The partnering development curve shown in Figure 2-3 is largely based on the relationship between ICI Plastics and Tetra Park Australia.⁹ This model looks at the progression of a partnership over a period of years. Although based on a specific study it can be applied in general to any partnering development.

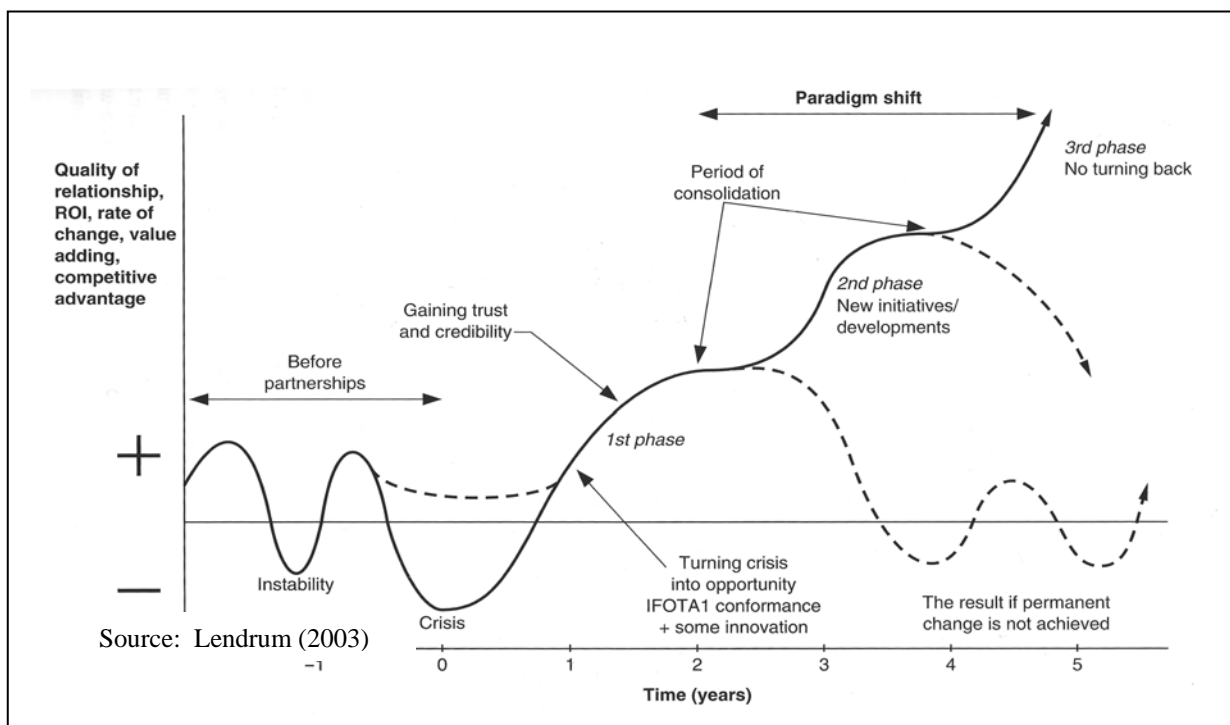


Figure 2-3 – Partnership Development Curve

Lendrum (2003) looks at the development in 3 phases, and likens it to a marriage.¹⁰ Over time the aim is to increase ROI, competitive advantage etc. so that both parties benefit. At time zero in Figure 2-3, a point of crisis is emphasised, following which a period of regeneration ensues or an exit strategy is sought. If the regeneration option is taken, over the first 18 months, a noticeable improvement should be seen in the relationship over which time trust will be established, however Lendrum (2003) makes a clear point that “in the case of strategic partnerships and alliances it will most likely take years, not months to turn crisis into opportunity.”¹¹ Points of consolidation are

apparent following the first and second stage to ensure that the whole organisation has caught up with the changes that have occurred. It is these points that are crucial; as it is here that a step backwards is most likely to occur, often as a result of complacency shown as a dotted line in Figure 2-3.¹² It can also be seen that a paradigm shift in the relationship development can be achieved over time; this is when most of the problems have been resolved and further problems are easily managed as the relationship has reached a mature phase and a point of no return.¹³

This model provides a basis for beginning to understand what is involved in developing a strong partnering arrangement with a supplier. It is clear that for a strategic level partnering arrangement, time is a key factor.

Now that the basis of relationship development has been discussed, further emphasis will now be turned to how that development can occur and when it is likely to be required.

2.3.3 Relationship Development

Before looking specifically at how to develop relationships, it is worth discussing when in fact it is desirable to develop a relationship as it is not always required as discussed earlier in relation to Kraljic's (1983) model. The relationship matrix in Figure 2-4 shows where it is deemed desirable to develop a relationship. If value creation is not likely to occur, developing a relationship is going to be a costly process with no benefit, therefore those areas at the top of the matrix, where risk is higher are those where a relationship development programme may prove beneficial.

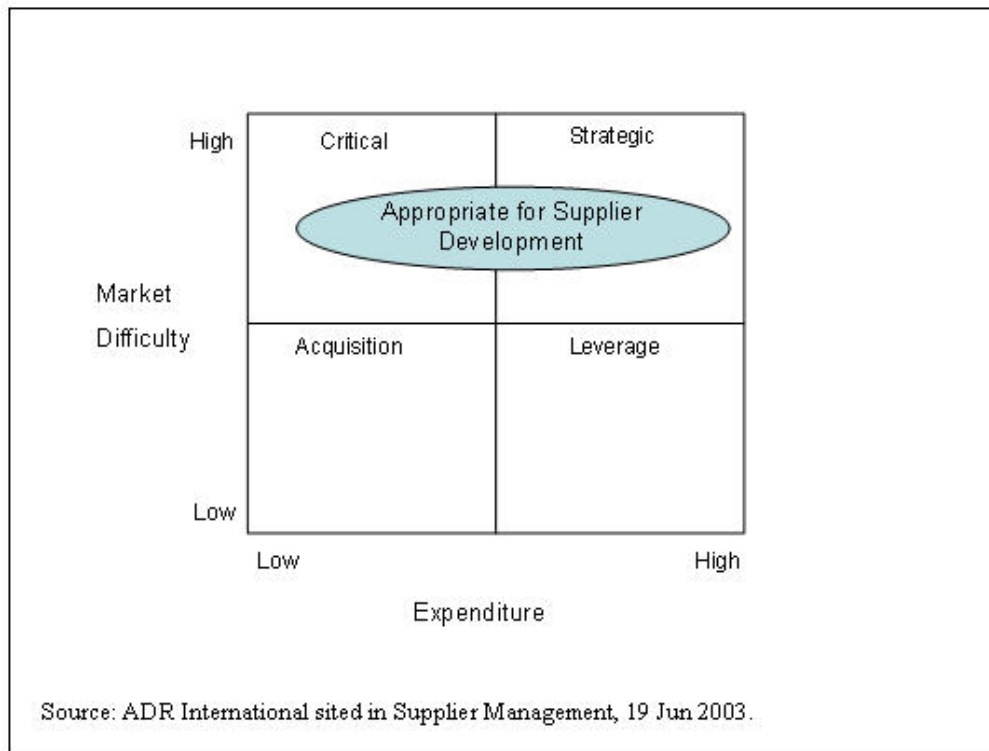


Figure 2-4 – Relationship Diagram

Figure 2-5 shows one model of relationship development; “the objective of any programme will be based largely upon the gap identified between existing supplier performance and the standard required now and in the future.”¹⁴ Ford (2003) recommends discrete steps in the development programme and also highlights that if there are people within the organisation that are adamant of doing the things ‘the old way’; this may hamper the progress that is going to be able to be made.¹⁵ This will obviously limit how far up the graph it is possible to go. Ford (1983) identified 10 key drivers of success, which are shown in Figure 2-6. These drivers of success are what he believes will facilitate the progression towards strategic alliance.

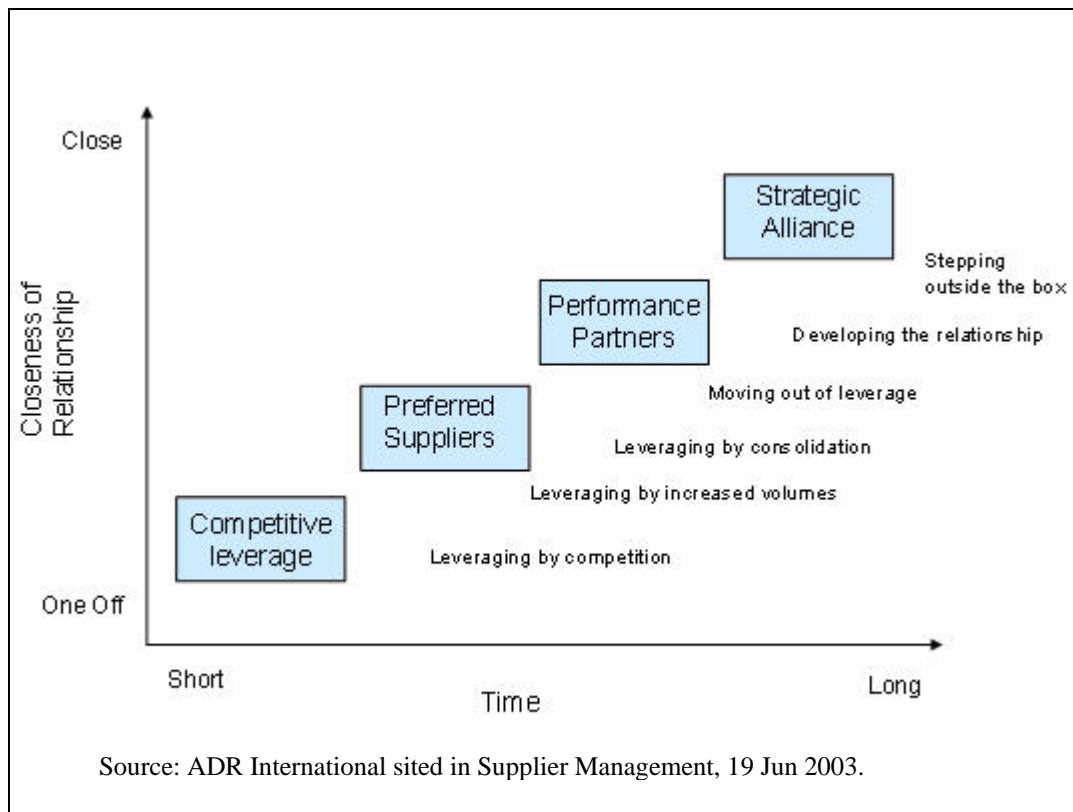


Figure 2-5 – Relationship Progression

This relationship progression model is similar to a model used by the MoD, the transformational stair case shown at Figure 2-7. The stair case appears to be a sequence of steps to the top step, Contracting for Capability, however it must be noted that it is not intended to be a stairway to heaven, but a tool to ascertain where on the stair-case certain contracts stand. It is not always desirable to make it to the top of the stair-case; this depends on the type of contract and strength of the supplier and customer as discussed earlier.

10 Key Drivers of Success

1. Define and develop a strategy to meet the business and end-customer needs.
2. Secure agreement between both parties on how the supplier can help achieve these needs.
3. Establish clear measures to gauge the supplier performance.
4. Ensure regular, detailed and action focused feedback to the supplier.
5. Agree on the supplier's current performance gap and expected performance requirements.
6. Obtain acceptance and commitment from the supplier's senior management.
7. Develop and agree a time plan with the supplier to close the performance gap.
8. Get commitment on the part of the buyer to transfer knowledge – and potentially best practice to the supplier.
9. Get commitment to invest significant purchasing resources in the programme.
10. Establish a multi-functional customer team that will:
 - a. Adhere to a common sourcing strategy;
 - b. Share knowledge.

Source: Ford (2003)¹⁶

Figure 2-6 - Key Drivers of Success

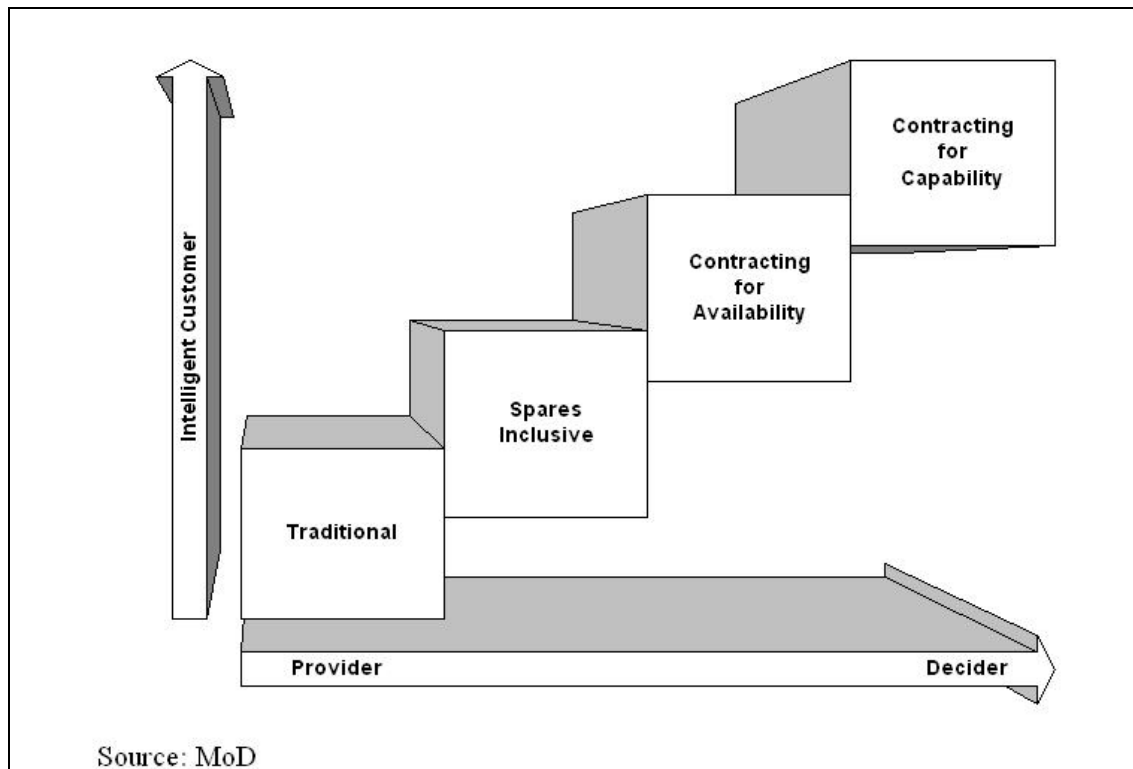


Figure 2-7 - Transformational Stair Case

Having looked at some of the partnering models available in the literature, attention will now be turned more specifically to defence partnering arrangements. There is limited academic research in this field and most of what is available is the work of Professor Richard Wilding and Dr Andrew Humphries.

2.3.4 Partnering in Defence

Dr Humphries conducted a research project for Cranfield School of Management in 2001/02 looking at 55 major IPT/Industry relationships across Sea, Land and Air Systems. The findings of this study were extremely valuable both at the operational level and a strategic level. At the lower level, it highlighted problems with individual contracts which could be addressed to improve the relationship. At a strategic level, as well as providing a good overview of the whole portfolio of relationships, it also

highlighted some generic issues that needed to be addressed. These included “instability caused by high staff turnover, lack of formal performance reviews and the importance of properly incentivised framework contracts.”¹⁷ The finding of the research was that 77% of the relationships were deemed successful; those that were deemed to be failing were the bigger projects with higher levels of spending.¹⁸ This is obviously a major cause for concern.

2.3.4.1 Problems in Defence

Government policy regarding the importance of partnering is quite clear; this was a key feature of the smart procurement initiative. However, “despite clear strategic intentions, the practical implementation of partnering agreements 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.”¹⁹ This statement was made in a paper by Wilding and Humphries and highlights some of the problems inherent in the defence environment.

The following statement was made in a paper addressing partnering within defence procurement; “it is clear that extensive, open, honest communications are key activities, however these must be underpinned by the need to change mindsets and behaviours away from the traditional adversarial to a more accommodating variety.”²⁰ The emphasis on change here is critical; unless a shift away from the traditional adversarial approach is successful, partnering will not lead to the benefits that it can and should bring. Figure 2-8 highlights some of the differences in behaviours.

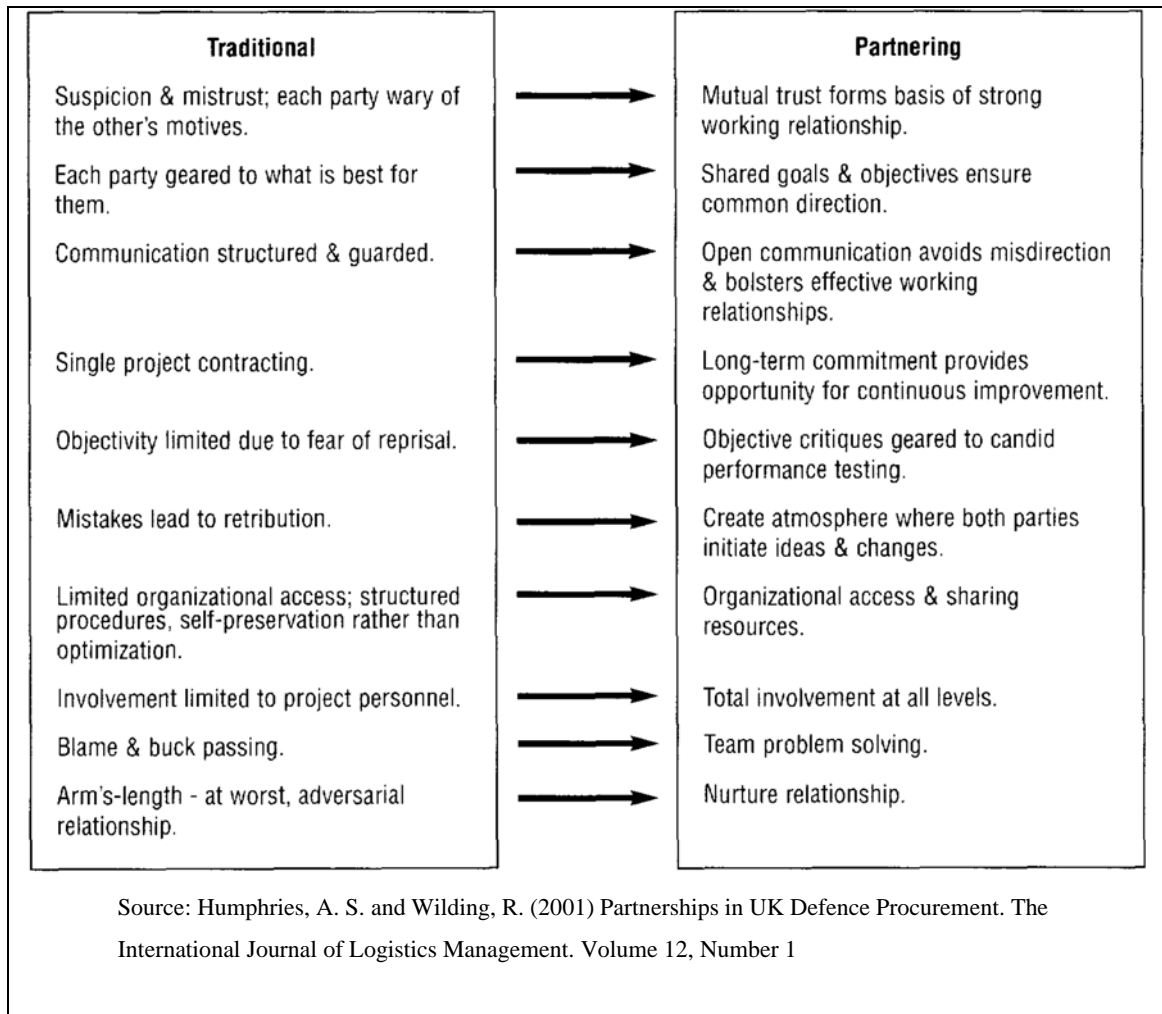


Figure 2-8 - Paradigm Shift in Relationships

2.3.4.2 Monopolistic Environment

The nature of defence procurement and the specialised equipment that the MoD requires means that creation of a monopoly is quite common. This situation can mean being locked into long term contracts with suppliers and having little or no opportunity to escape. As stated by Wilding and Humphries, “this can be a marriage made in heaven or, as often is the case, a marriage made in hell.”²¹ The study that Humphries and Wilding conducted which was mentioned earlier in this chapter, examined the challenges of collaboration using the ‘Williamson Organisational Failure framework’ (1975). They considered this the most appropriate way to test relationships in a large number of UK defence-industry relationships.²² The ‘Supply Chain Relationship

Success Cycle' encapsulates this survey and the article also contains an opposing 'Collaborative Relationship failure cycle' shown in Figure 2-9 and Figure 2-10.

The research study also captured some remarks made by those involved in partnering arrangements. The following quotations were taken in relation to concerns from managers over money, commercial, staff and performance:²³

"Budget constraints in the MoD reduce the relationship to fire-fighting. It's impossible to plan ahead"

"The biggest obstacle to improving business performance is the Commercial Department. There is a severe shortage of resources, risk aversion and lack of flexibility, which leads to significant effort and delay in agreeing contracts"

"We have built a head of goodwill despite the problems"

"The regular cycling of staff is not conducive to building strong long term relationships that develop sound working practices and innovation"

From these quotations, it can be seen that although there are clearly some problems, it was not all bad. Their study found that "many issues surrounding supply chain management implementation were similar to those found in normal markets and that it played an important role in reducing the inherently negative effects of monopolistic relationships."

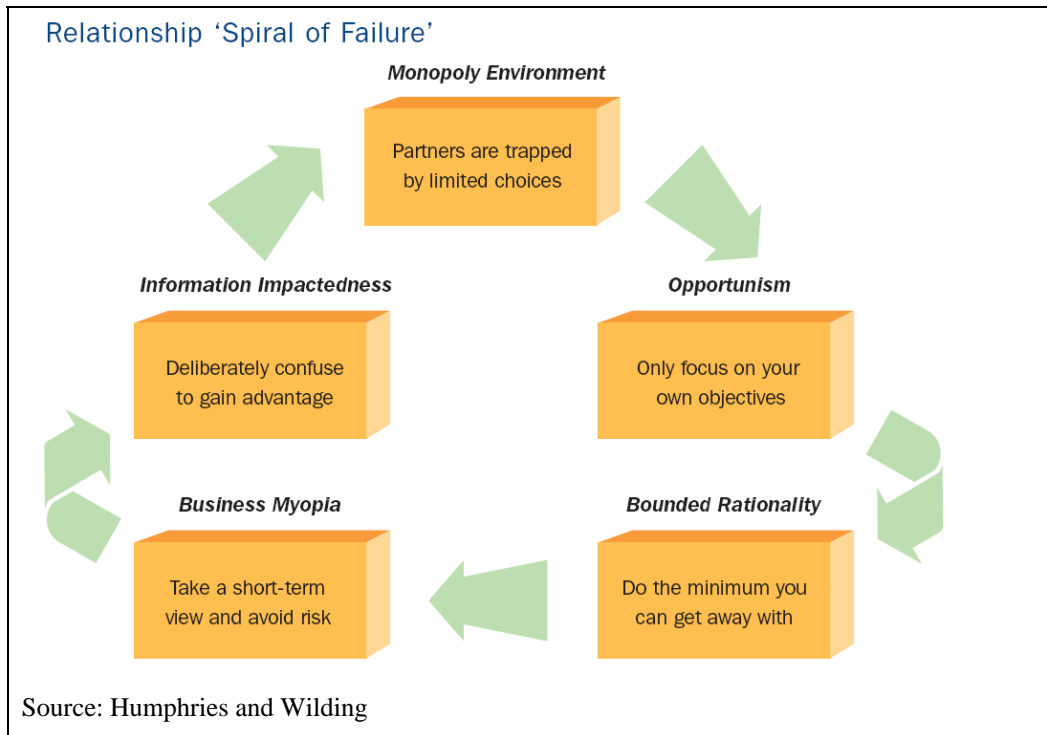


Figure 2-9 – Spiral of Failure²⁴



Figure 2-10 – Spiral of Success²⁵

In their article 'Sustained monopolistic business relationships - A UK defence procurement case,'²⁶ Humphries and Wilding examine in detail the nature of

relationships between the UK government (MoD) and industry. This article comprehensively examines the relationship between the UK Government and Industry and proposes frameworks to further develop these relationships, with the following table (Figure 2-11) summarising practical measures that can be used to examine both the current state of a partnering arrangement and also suggest steps to be taken to further develop this partnering arrangement.

First generation partnering	<ul style="list-style-type: none"> Agreeing mutual objectives Making decisions and resolving problems openly as agreed at the start of the project Aiming at targets that provide continuous measurable improvements
Second generation partnering	<ul style="list-style-type: none"> Develop strategy jointly Embrace participating firms fully Ensure equity by allowing all to be rewarded on the basis of fair prices and profits Integrate firms through co-operation and trust Benchmark performance accurately Establish best practice processes and procedures React to feedback positively and quickly
Third generation partnering	<ul style="list-style-type: none"> Understand the client's business and its success factors Take joint responsibility for key outputs Turn the main processes into a seamless chain of value-adding activities Mobilise full partnership development expertise Create expert teams and key account managers Innovate jointly
<p>Source: Adapted from Watson (1999)</p> <p>Cited in: Sustained monopolistic business relationships - A UK defence procurement case'.</p>	

Figure 2-11 - Monopolistic Business Relationships

From this table it is clear that these facets of successful partnering are as important as 'technical' decisions regarding development of contract requirements or the construction of an appropriate supply chain to deliver the required solution.

2.4 Conclusion

This chapter has looked at the MoD policy regarding partnering and it was clear that the MoD see partnering as the best way to do business with industry. Following this, some of the partnering models were discussed to gain a better understanding of what is involved in creating a good, long term, partnering arrangement. Finally, the defence context was looked at specifically and the little research that has looked at partnering between MoD and industry was explored.

From the review of the literature, several conclusions can be made. It is clear that partnering is not easy and it takes a considerable length of time to get a relationship working well with both sides gaining benefits. The first important decision to make is whether there is a requirement to partner in the first place. What are the potential advantages and are they available to both partners. The answer to these questions will determine whether there is sufficient justification to spend both time and money on developing a relationship.

Relationships between the MoD and industry have inherently been adversarial, but the MoD is clear in its intent to change this and move to a more collaborative partnering approach. The implementation of this is however not as successful as it could be. Studies have shown that some partnering agreements are working very well, with satisfaction rates well over 50%, however there remain problems. Personnel turnover and lack of formal performance reviews are a problem on the military side as well as reluctance to change and lack of trust in some situations.

There are drivers for success that have been identified by Ford (2003) that may go some way to addressing the problems that the MoD has experienced in developing strong relationships. The development of a good relationship may take years and small discrete steps are recommended in the development programme; it is hoped this will lead to a spiral of success and not the spiral of failure.

¹ Strategic Defence Review, 1998

² Strategic Defence Review, 1998

³ Defence Industrial Strategy, 2005.

- ⁴ Ministry of Defence Policy Paper No 4 – Defence Acquisition.
- ⁵ DE&S – it’s new roles and objective. Preview, October 2006
- ⁶ Gelderman, C. J. Handling measurement and Strategic issues in Kraljic’s portfolio model – results of explorative case studies.
- ⁷ Gelderman, C. J. Handling measurement and Strategic issues in Kraljic’s portfolio model – results of explorative case studies.
- ⁸ Day, G. S (1986) cited in Gelderman, C. J. Handling measurement and Strategic issues in Kraljic’s portfolio model – results of explorative case studies.
- ⁹ Lendrum, T. (2003) The Strategic Partnering Handbook.
- ¹⁰ Lendrum, T. (2003) The Strategic Partnering Handbook.
- ¹¹ Lendrum, T. (2003) The Strategic Partnering Handbook, 4th edition.
- ¹² Lendrum, T. (2003) The Strategic Partnering Handbook, 4th edition.
- ¹³ Lendrum, T. (2003) The Strategic Partnering Handbook, 4th edition.
- ¹⁴ Ford, I. Partners in Progress. Supplier Management, 19 Jun 2003.
- ¹⁵ Ford, I. Partners in Progress. Supplier Management, 19 Jun 2003.
- ¹⁶ Ford, I. Partners in Progress. Supplier Management, 19 Jun 2003.
- ¹⁷ Humphries, Dr A. S. (2005) The Future of the UK Defence Industry. Spring 2005, RUSI Defence Systems pp17-18.
- ¹⁸ Humphries, Dr A. S. (2005) The Future of the UK Defence Industry. Spring 2005, RUSI Defence Systems pp17-18.
- ¹⁹ Humphries, A.S and Wilding, R. (2001). Partnerships in UK Defence Procurement. The international Journal of Logistics Management. Volume 12, Number 1.
- ²⁰ Humphries, A.S and Wilding, R. (2001). Partnerships in UK Defence Procurement. The international Journal of Logistics Management. Volume 12, Number 1.
- ²¹ Wilding, R. and Humphries, A. Partnership Lessons From Defence Procurement. www.iolt.org.uk
- ²² Humphries, A.S and Wilding, R. (2006). Understanding collaborative supply chain relationships through the application of the Williamson organisational failure framework, *International Journal of Physical Distribution and Logistics Management*, Vol. 36, No. 4, 2006.
- ²³ Wilding, R. and Humphries, A. Partnership Lessons From Defence Procurement. www.iolt.org.uk
- ²⁴ Wilding, R. and Humphries, A. Partnership Lessons From Defence Procurement. www.iolt.org.uk
- ²⁵ Wilding, R. and Humphries, A. Partnership Lessons From Defence Procurement. www.iolt.org.uk
- ²⁶ Humphries, A.S and Wilding, R. (2002). Sustained monopolistic business relationships - A UK defence procurement case. *European Journal of Marketing*, Vol 38, No. ½, 2004.

3. A Contract Analysis Model

3.1 Introduction

At an early stage in the formation of this project it was clear that development of a suitable model to both examine contracting models currently in place within the Defence-Industry arena and also within other long term complex business-supplier relationships, enabling visual depiction of the features of a given contract, would be a useful tool.

If this model could then be extended to analyse why a given contract had been constructed in a certain way and also allow derivation of ideal contract structure for a given end user requirement (for example, given a certain military platform or system which contract structure is ideal), it would seem to be of benefit both to our industry sponsor, Thales, and the wider defence industry. We could also attempt to correlate the common features between contracts to potentially detect trends in contracting.

As a result, this chapter describes derivation of our ‘contract analysis model’ and how we then applied this to several existing relationships both at an industry symposium and during the various interviews carried out. It also examines why this model was useful (its advantages), where we found limitations (drawbacks), and finally suggests further development that may aid future analyses.

3.2 How the Model was Constructed

The primary aim of our model was to visually depict the features of a support contract for a given platform. This would allow easier understanding of this contract and also comparison between contracts. The literature, perhaps most easily typified by Kraljic (1983), also emphasised the need for both customer and supplier to choose a contracting or relationship model appropriate to the business. In the case of the MoD the increasing degree of sophistication is described by the “Transformational Staircase.” Given the

importance of this model to defence contracting as a way of representing the state of a given partnering arrangement, it was decided to use this as a basis for our model, forming the Y-axis. This would then be combined with the constituent components of a platform. For example, an airborne platform could be comprised of the airframe, engines, components and consumables. In addition, the scope of any given contract would be explained by the use of ‘blobs.’ Given a platform wide contract covering complete support of an aircraft (for example Platform 1 in Figure 3-1), this ‘blob’ would cover the width of the diagram. Individual contracts for each element of a platform would be represented by smaller ‘blobs’ as shown representing Platform 3.

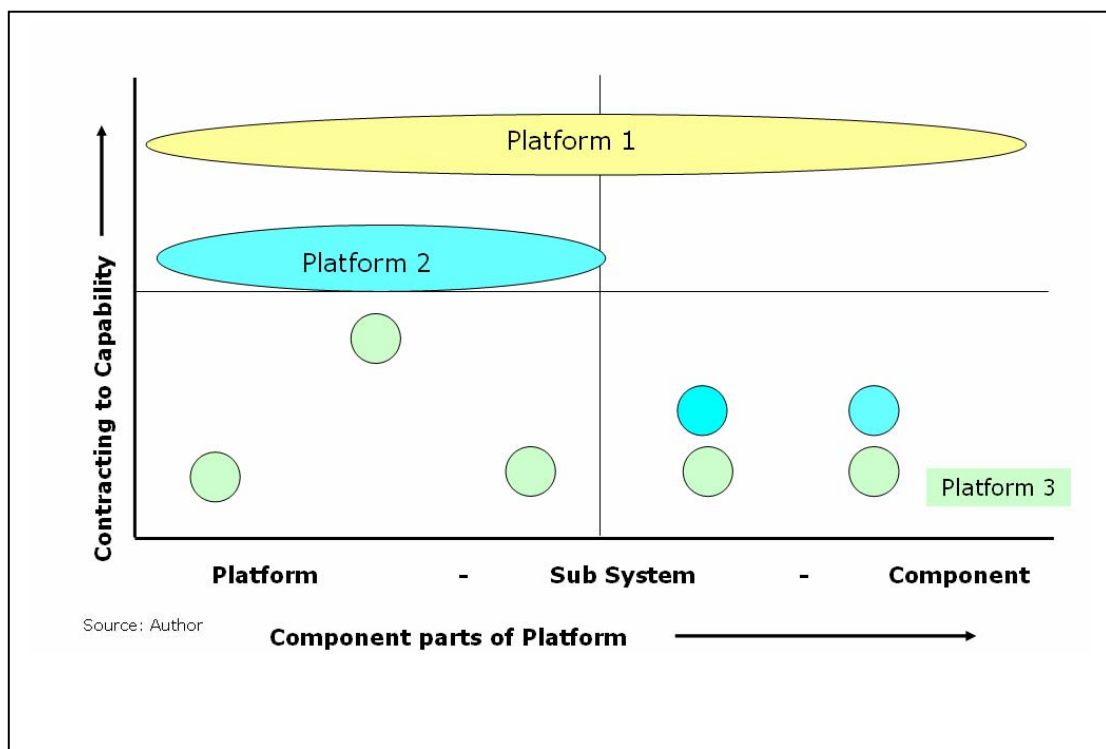


Figure 3-1 – Diagrammatic Example of Contract Analysis Model

3.3 Data Collection

The Contract Analysis model was first presented to the Contracting for Availability symposium at Shrivenham in June 2007. The model was explained and the audience were invited to both question the rationale behind the model and also to complete the model for contracts that they were familiar with, using pre-circulated ‘blank’ templates. In addition, following completion of all interviews we completed the model.

During the symposium it was clear that the model required some explanation to most respondents before they felt comfortable to complete it. In addition, many respondents felt the need to tailor the model, change the axes to a completely different scale, or to place contracts part way between areas on the Y axis. In itself this indicated an innate desire by the MoD respondents to do something different to that requested and also that there was a huge diversity of contracts in place meaning a ‘one size fits all’ model was perhaps not applicable.

3.4 Advantages and Drawbacks of the Model

On attempting to populate our model with data a number of strengths and weaknesses of the model were highlighted both by our respondents and by us.

In general the model required some explanation as to what role it would perform and how to populate it with data for a given contract. The division of the X-axis into discrete parts of a platform often required further explanation (given that an axis normally represents a continuum of items from small to large). However, with some contracts being ‘system’ based (such as Helix) there was a need to re-label this axis into separate components of a system. In addition, some respondents wanted to make the X-axis time based to represent the chronological development of their contracts. In summary, the X-axis was not found logical by most respondents.

However, the Y-axis of the model was well understood by most of the respondents, given that it was formed in line with the Transformational Staircase and that most involved with MoD contracting are highly familiar with this model.

Many respondents questioned the purpose of the model; once they understood that it was purely a means of representing their contract most were happy to complete the model. However, an original intention of the model was to develop it to allow comparison across contracts and to act as a tool to aid in design of future contracts but this was not achieved.

3.5 Conclusions

The model developed proved highly effective, once understood by respondents, in quickly depicting an overview of support contracts in both the MoD and civilian aerospace environments. However, completion and understanding by respondents sometimes required some explanation.

One aspect that was apparent during the interviews was that the progression “up” the staircase (and therefore up the Y-axis) was considered good. This appears to be in contrast to Kraljic’s view that the important issue is to select a purchasing relationship appropriate to the prevailing conditions.

Intended development of the model to recommend future contracting formats and to guide what contract format was most suitable for a given capability proved unsuccessful, however responses were used to further inform this report and to visually support information presented in later chapters.

4. MoD and Industry Analysis

4.1 Introduction

The intention of this chapter is, in seeking to answer the aim of this project, to analyse the effectiveness of the contracting analysis model developed in the previous chapter and review both current contracting models being utilised within the defence contracting sector and also to consider potential application of models developed in other industries.

As discussed previously, in order to carry out this analysis a number of interviews were carried out and a presentation was made to the ‘Contracting for Availability’ symposium at Shrivenham on June 20 and 21st. Some notes are provided below following this presentation as much useful discussion was generated.

The focus of our investigations centred on the Royal Air Force and therefore most of the supported platforms reviewed were airborne; however where the contract supported a ‘system’ often ground and seaborne elements were included. Considerable time was also given to comparing military requirements with Civil Aerospace requirements and reviewing the potential similarities.

In the process of carrying out this work our aim was to get a sense of:

- What stages can be recognised in the progression to true partnering – how far can it go?
- What contracting models and partnering arrangements are currently in place in the civil and defence marketplace?
- Why are these contracts constructed as they are, can a linkage be developed between the operating requirement and contract and partnering format?
- Are these contracts ‘successful’ and what makes them a success?
- What are the trends in contracting and partnering?

Finally, this chapter will summarise and offer a range of suggestions as to how far partnering may go.

4.2 Review of our Model - What did it tell us?

As discussed in the previous chapter, the contract analysis model proved effective for rapidly ‘visualising’ a contract’s components. As shown by examining the completed models in Appendix 2, the overall aim of the various IPTs interviewed was to ‘move up’ the Y axis further towards contracting for capability. Again shown by the analysis, there was also seen to be a large disparity between the formats of contracts being entered into across the various IPTs. As an example of this, the Hercules platform is provided as one complete contract (excepting government furnished equipment), whereas the Nimrod MR2 is separated into a number of separate contracts covering elements of platform (aircraft, engines) and with each major system being then separated into further contracts.

From our research we found:

- Entire asset platforms (aircraft, engines, systems, components and support) under contract for availability (E3 Sentry and Hercules)
- Entire asset platforms (ASTOR) and systems on CLS contracts (Raytheon)
- Asset platforms split into multiple types of contract from spares and repair to contracting for availability (Nimrod MR2).
- Major Sub-systems (Project Helix) being contracted for capability (L3)
- Bundling of commodities across various platforms into one contract (Av & Air EW IPT)

Within the interviews it was apparent that these contracts were being developed very much based on the opinions and ‘gut feelings’ of the IPT members. Much of this was on a cost driven basis rather than any overriding logic or tool that enabled the IPT to decide how the contract should be constructed. Evidence of collaborative efforts to drive value for the MoD and industry was limited. As a simple example, mention was made during the C130 IPT interview of detailed stipulations for aircraft parking. This

type of detail requirement is still prevalent rather than the collaborative effort to examine what type of service delivery really underpins the IPT's core competency.

4.3 Feedback from 'Contracting for Availability' Symposium

Presentation of our research to date including the contract analysis model at the Contracting for Availability symposium instigated considerable discussion. This centred around two key concepts.

Firstly, various audience members proposed that the MoD had 'different requirements' to other civil or non-MoD operations. The exact nature of these differences was not articulated; indeed on further discussion opinion developed that there was as much difference in requirement between the various military operations as there was between military and industry (industry being non-airline, civilian operations). The presentation of material describing how Easyjet had constructed its contracting models lead to a number of audience members concluding that 'Easyjet is not like us' and therefore doubting any application of the models in a military environment. Various contractors/suppliers/MoD partners present contested this notion of difference between the MoD and industry, on leaving the MoD they had realised that the concept of being different was present in every industry but that the process of understanding these differences enabled the supplier to add value in the contract offering.

Secondly, audience members who had left the MoD to join industry noted a marked contrast in financial awareness and cost control. Industry was considered to be much 'tighter' in that visibility and the ability to report accurately on financial data was much greater. This is further discussed in Chapter 5 as one of the barriers to partnering.

An overriding impression gained from industry personnel present was that they were able to provide services in line with military requirements and that many contracts for availability had been successfully put in place. However, doubt remains as to the underlying logic and rationale behind how the military placed these contracts.

The presentation made at Shrivenham is given in Appendix 3.

4.4 Partnering Progression

In order to analyse and explain the stages of partnering progression it was considered relevant to utilise the 5 stages of key account development¹.

The concept of Key Account Management (KAM) originated in high value business-to-business relationships such as the ones between the MoD and industry and whilst this report is exploring partnering, the 5 stages describe a highly relevant maturation of a partnering relationship. The ability of both organisations to progress through each stage largely depends on trust. In his article ‘Sustained monopolistic business relationships - A UK defence procurement case,’² Humphries (2002) compares the ‘Bow-Tie’ and Diamond stages of KAM to describe the progression in. The ‘Bow-Tie’ is used to describe the Basic KAM stage and the ‘Diamond’ the Interdependent KAM stage. The five stages and associated explanatory diagrams are given below.

4.4.1 Exploratory KAM

This stage describes the initial engagement between the sellers Key Account Manager and the buyers Purchasing Manager. They form the contacts for each group and are responsible both for persuasion and ‘selling’ to the rest of their organisation and also must be able to interact effectively with each other. This type of engagement is often seen in a cost reduction arrangement.

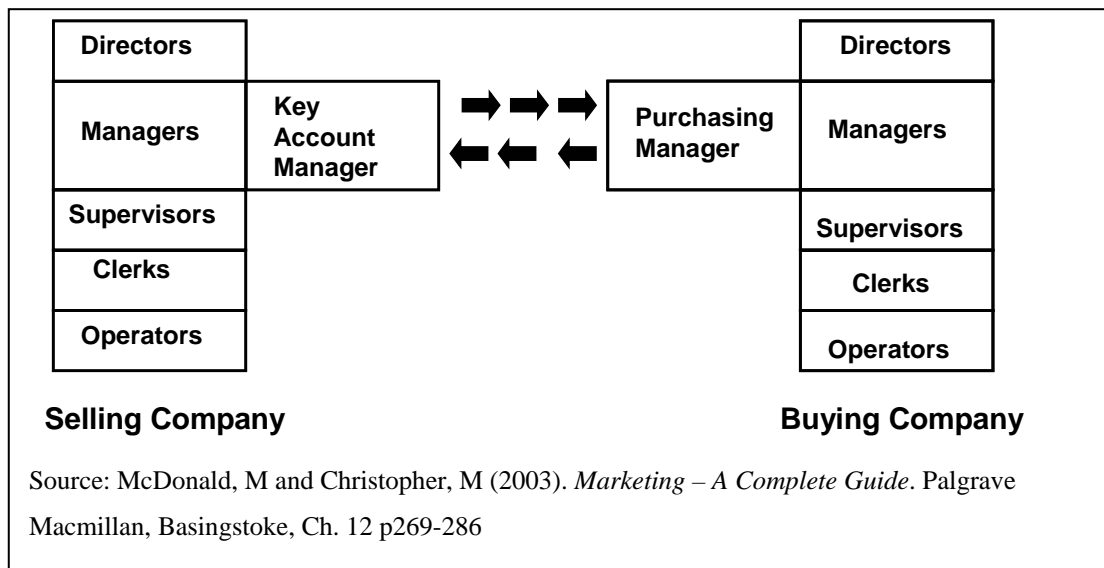


Figure 4-1 - The Exploratory KAM Stage

4.4.2 Basic KAM

The key difference at this stage is that the Key Account Manager and the Customer contact are becoming closer and their organisation is aligned behind them. The Key Account Manager is a benefit to the buying company as they have the ability to quickly take action in response to customer needs.

The Key Account Manager is also able to operate further within the customer organisation and identify opportunities for account growth and progression and also service improvements.

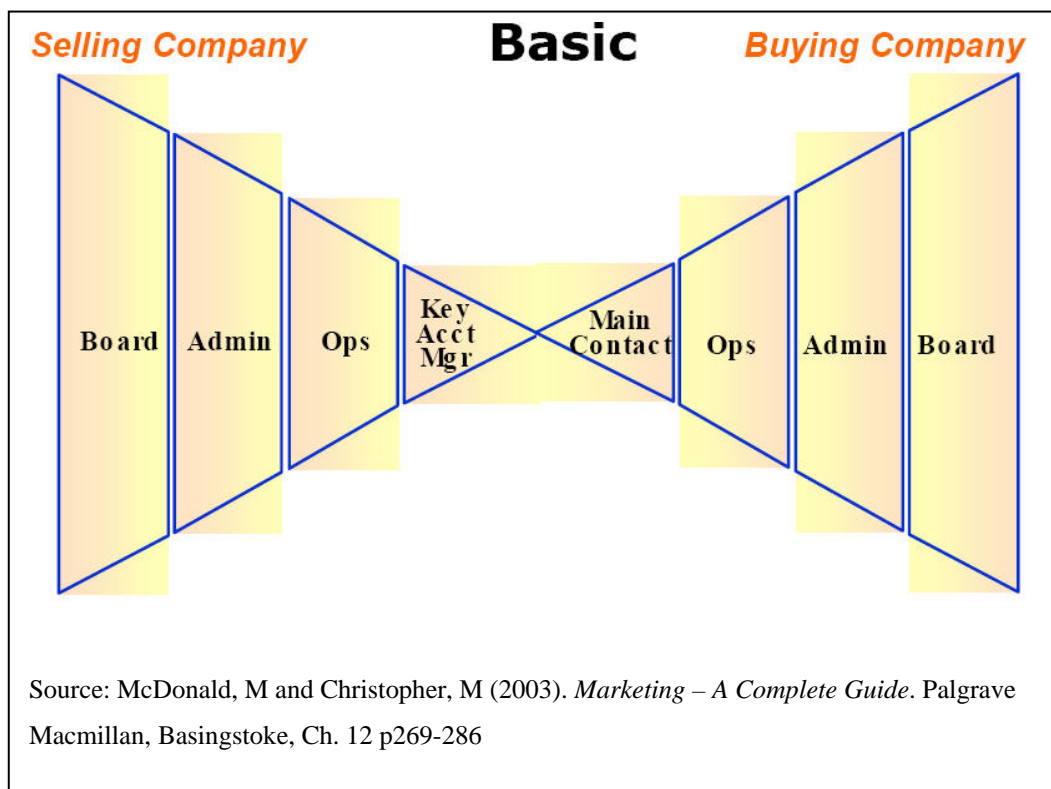


Figure 4-2 - The Basic KAM Stage

4.4.3 Co-operative KAM

The key change at this stage is the engagement between seller and buyer at all levels. Multiple relationships are being formed between counterparts in both companies, and the seller may be moving towards the stage of being a 'preferred' supplier.

These relationships may be extended beyond the workplace to social occasions and an atmosphere of trust is created. However, this type of relationship is vulnerable to staff turnover and cases of inconsistent management.

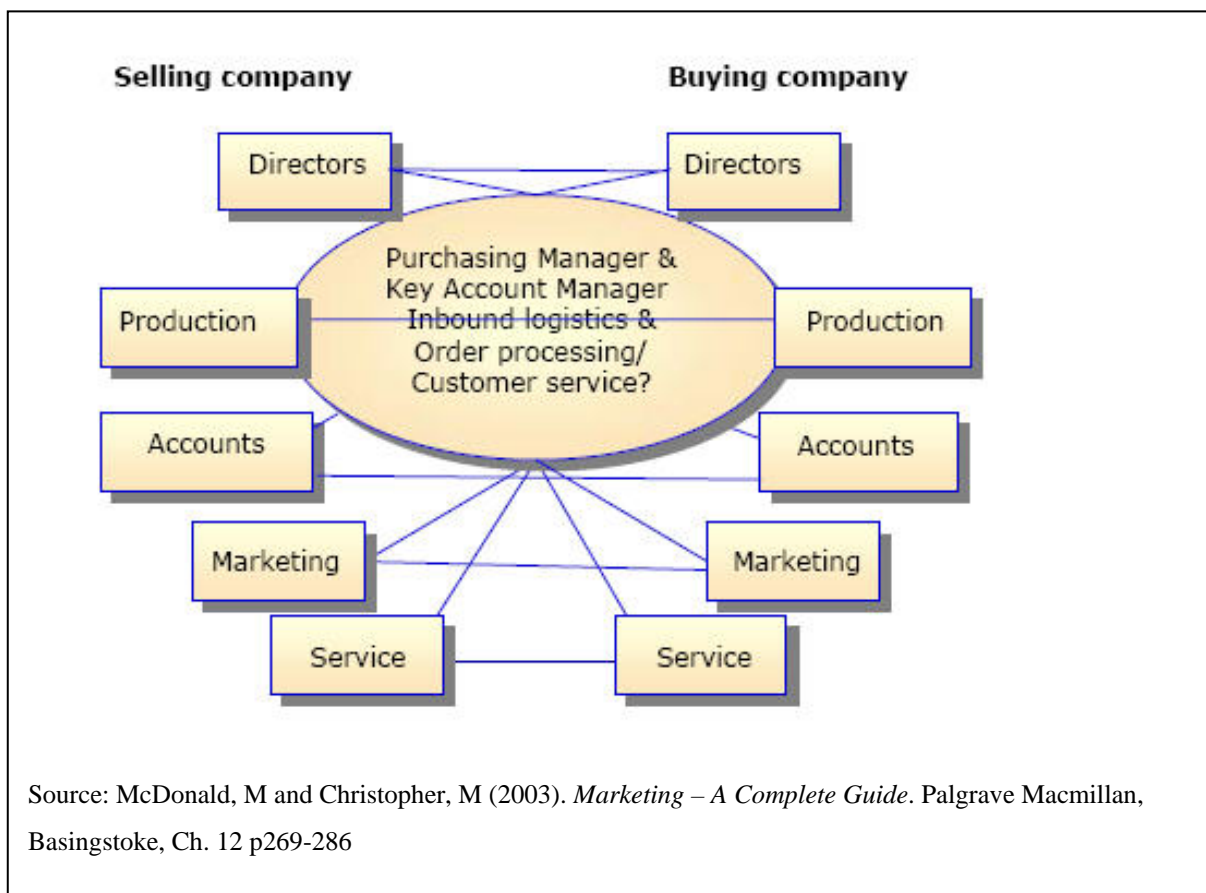


Figure 4-3 - The Cooperative KAM Stage

4.4.4 Interdependent KAM

At this stage both organisations are completely engaged. Pricing is likely to be long term and stable, with expertise and sensitive information being shared between both parties.

The Key Account Manager and main customer contact have now stepped back from being primary contacts and work ‘behind-the-scenes’ facilitating the relationship. Due to the importance of the arrangement, the main contacts may now be at a more senior level.

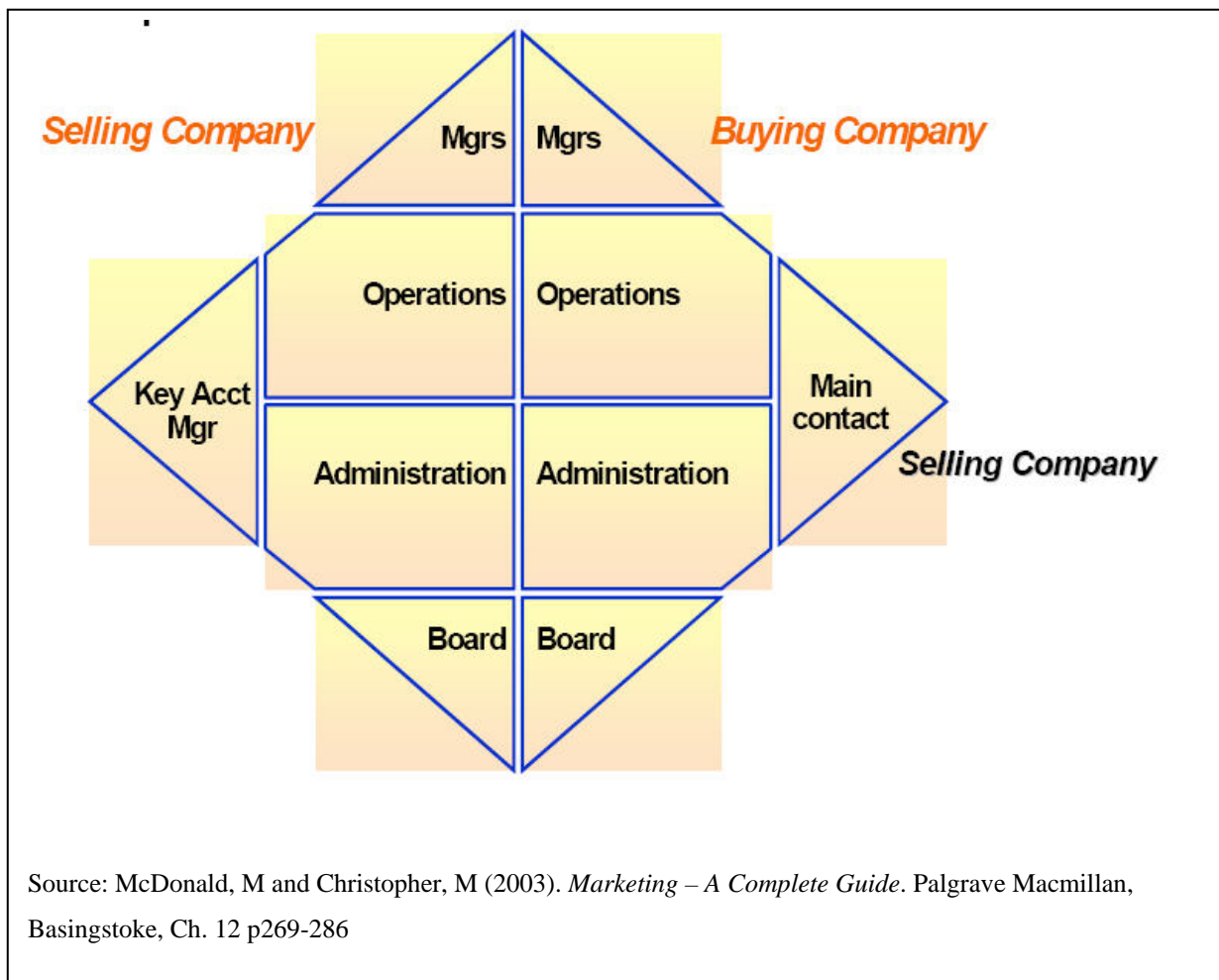


Figure 4-4 - The Interdependent KAM stage

4.4.5 Integrated KAM

The border between the buyer and seller has now become more blurred. The Key Account Manager and main customer contact purely coordinate the efforts of the teams formed within the organisation.

With this type of relationship, value is created over and above that which could be achieved if both organisations operated independently.

Note that this integrated organisation could also consist of more than one selling company. It is also likely that other systems will be linked with information flowing between electronic systems and joint business plans being developed.

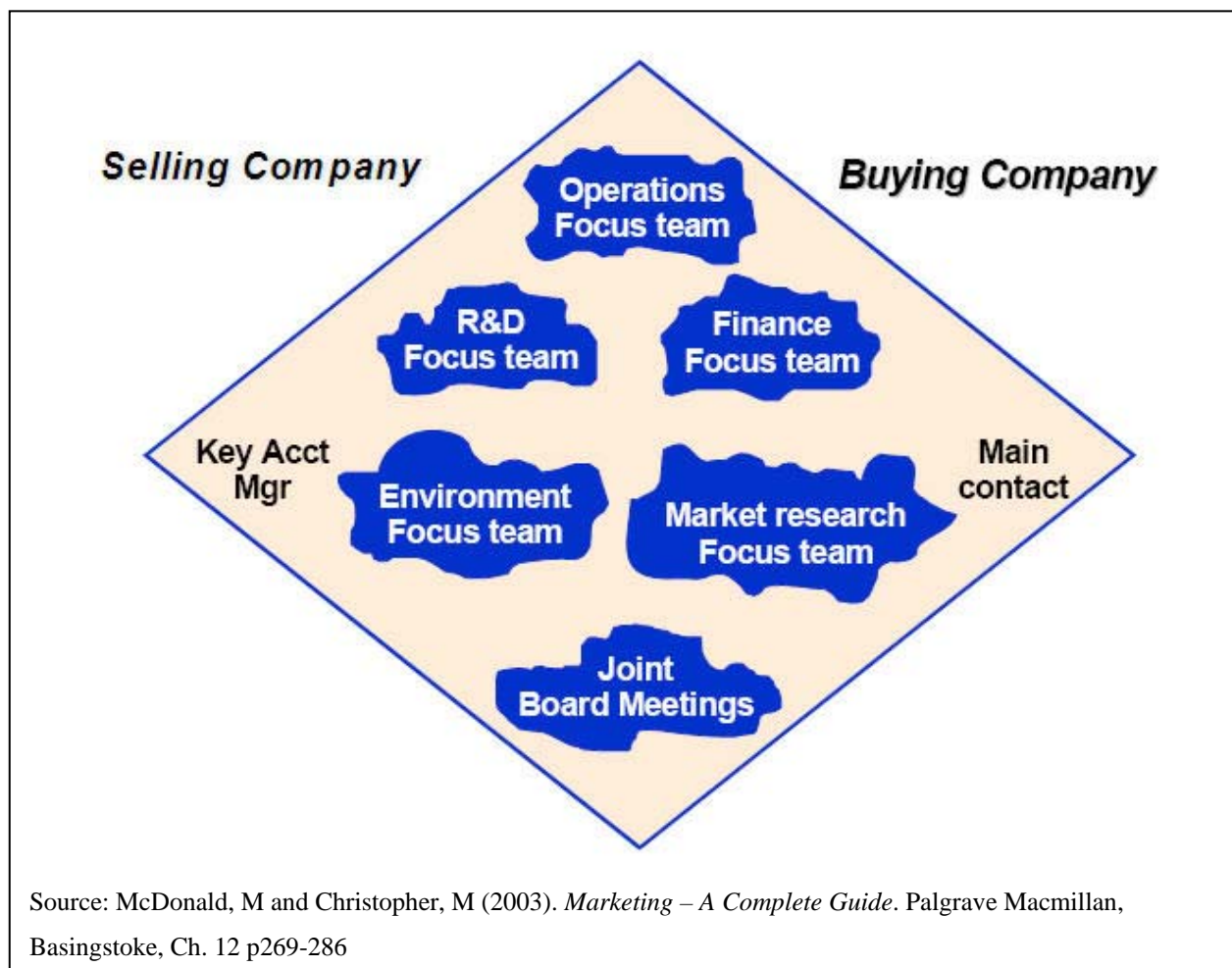


Figure 4-5 - The Integrated KAM Stage

4.5 Industry and Civilian Trends

4.5.1 Background.

As a result of one of the three authors being from a civil aerospace background, it was decided that it would be appropriate to examine civil aerospace industry contracting models. As part of this process, an interview was carried out at Easyjet as well as the author drawing on considerable knowledge of other contracting formats and arrangements in place.

In a civilian context the MoD can be considered similar to an airline; as the operator of the asset they seek to utilise the asset's capability to transport passengers or freight. However, there is one distinct difference between the military and civil operator; in that the military will often use specific equipment or systems on a platform to gain 'competitive advantage.' Therefore the technical capabilities and the skill of the operator in using this equipment are important. This is contrasted with an airline where the competitive advantage is more often obtained from a particular business model being utilised (for example low cost carriers or long-haul single business class operators).

4.5.2 Easyjet.

Easyjet utilise a 'low cost' business model and rely on gaining maximum utilisation from their aircraft and staff assets. Therefore the availability and reliability of these assets is of utmost importance. From a contracting perspective, on commencing operations in 1995, Easyjet sought a maintenance and supply chain partner who could allow them to simply sell tickets and operate the aircraft. To do this they partnered with SR Technics (formerly FLS Aerospace) to provide a full suite of MRO (Maintenance, Repair and Overhaul) services. This encompassed complete platform and system support on a 'power by the hour' basis. SR Technics provided services at multiple sites, with a portion of the maintenance being carried out within SR Technics facilities, and the remainder then being performed by a network of subcontractors managed by SR Technics. Essentially for one price, SR Technics guaranteed availability of assets to

Easyjet and therefore this could be considered to be a ‘contracting for availability’ arrangement.

Whilst this would be considered an ideal arrangement that sat well with the desire to move up the Transformational Staircase, as Easyjet developed their business model, gained financial and contractual insight into the day-to-day operation of their assets, and also experienced considerable growth, the conflicting pressures experienced by SR Technics (SR Technics provide services for many other airlines) meant that Easyjet considered the cost/risk of being wholly reliable on one partner to be too great. In addition, the regulatory authorities (as a result of JAR OPS Subpart M) insist that the operator maintains technical and maintenance oversight of its assets. As a result, they have taken the decision to fragment their previous contracting arrangements into a number of smaller packages, in effect moving down the transformational staircase.

This will require Easyjet to develop internal technical, supply chain and project management skills that were previously held by its partners. This contrasts distinctly with the MoD who at this same time is seeking to devolve responsibility, risk and personnel to its partners. Easyjet’s decision fits closely with the notion of risk ownership discussed in the next chapter. On completing this transformation, Easyjet consider that they will have sufficient in-house expertise and knowledge to manage each commodity (airframe, component, engine maintenance) independently. From the interview it was clear that given equivalent contractual terms, their focus was clearly on cost and they would favour the supplier able to offer the lowest cost. Partnering capability and service were of secondary importance.

The complete Easyjet interview notes are provided in Appendix 4.

4.5.3 Civil Aerospace Partnering Models.

Within the civil aerospace environment, a number of forms of partnering are currently being pioneered as a way of offering ‘through life support’ to various platforms. As an example of this, as part of the 787 offering, Boeing are partnering at many levels. From a manufacturing perspective, large pieces of aircraft structure and systems are built

globally by a network of supply partners, contrasting with the traditional process of the aircraft manufacturer manufacturing and designing in-house. For the aftermarket, Boeing is offering the 'Goldcare' concept where they create a network of suppliers able to offer a complete package of in-service maintenance support. This network, managed by Boeing comprises both sub-systems manufacturers and independent MRO specialists. The intention is that Boeing will construct one supply chain offering and this will allow the airline customer to focus on their operation and core competencies.

Airbus is utilising its civil aerospace expertise in offering a complete MRO solution for the A400M platform (see explanatory diagrams in Appendix 5). Within this MRO offering, Airbus has utilised civilian maintenance concepts to minimise aircraft downtime and will perform the role of 'Prime contractor and Integrator for Service support.' Within this, Airbus constructs a customized supply chain in conjunction with the customer drawing upon a pool of both internal capabilities and previously approved suppliers/partners.

4.5.4 Industry Alliances

Also of relevance from a partnering perspective is the concept of alliancing widely utilised in the civil airline market. As an example, the 'Star Alliance'³ was formed to partner on a range of services, including maintenance. The concept is that alliance members develop their own specialisations and then offer these to other alliance members. This results in a global network of expertise being created.

4.5.5 Supply Chain Orchestration

Finally, the concept of 'Supply Chain Orchestration' is an example from industry, where a company has formed expertise in the construction of a customised supply chain for a given product. Also called 4PL's (fourth party logistics service provider), these companies facilitate the creation of supply chains by having intimate knowledge of the market place (who is able to supply what), and highly advanced information technology and quality management systems. As an example of this, Li & Fung, a Hong Kong based company, constructed a supply chain for trouser manufacture where the fabric,

dying, zip production, and final assembly, were all performed by different companies in different countries before final shipment to the end customer. In addition, capacity was booked before actual requirement was known, allowing highly responsive performance and precise orders to be placed once this exact requirement was identified.

Whilst this example in a fast moving consumer goods environment is distinctly different to the MoD-Industry environment, the concept of a service provider who has intimate market knowledge and sits independent of any given manufacturer may offer an indication as to how far partnering could go. Whilst it is inevitable that the large equipment manufacturers may play a large role within such a network, the ability to develop highly specialised supply chains, systems and partnering arrangement orchestration capabilities may be highly appropriate to the UK defence industry in attempting to remain globally competitive.

4.6 Defence Partnering Trends and Models.

In order to arrive inform this study with a view to making some recommendations it was also useful to examine innovative models currently being applied in the defence environment.

4.6.1 Total Support Services – TSS

TSS is an industry consortium formed between Thales UK, Smiths Aerospace (now GE Aviation Systems) and Selex Sensors, to provide the UK with complete avionics platform support capability.

These three manufacturers comprise a large part of the UK avionics manufacture and support capability and therefore the intention of this partnering arrangement is that the three members will be able to create higher value solutions and offer a more cohesive approach. Advantages include pooling of support infrastructure, extensive experience of supply chain management, increased buying power and the ability to design and support entire avionics systems rather than individually manufacturing discrete components.

TSS will also offer services on related avionics equipment not manufactured by the alliance members, where they will utilise their supply chain and partnering experience to the benefit of the end customer.

This model would appear to offer some advantages where a ‘type’ of commodity is currently manufactured or supported by several companies, for example environmental control systems. In addition, as mentioned in the previous section, platform manufacturers such as Boeing and Airbus are also initiating this model when constructing the aircraft.

4.6.2 L3 - Project Helix

One of our interviews focussed on Project Helix, an innovative partnering solution being proposed by US based L3 communications. This is one of the first examples being developed of ‘Contracting for Capability’ where the supplier offers not only certain levels of availability but also guarantees to upgrade (‘insert’) additional capability during the duration of the contract to pre-agreed levels. The key term referred to is the development of capability ‘against a burgeoning and developing target set’.

The L3 interview with Barry Smith discussed the principles of this arrangement in detail. The key issues centred on how additional capability would be delivered and how, in the case of a quantum shift in threat, capability would be developed and how would it be paid for. In this case the capability increase proposed would purely be along a pre-defined technological roadmap (allowing technology to ‘keep up with the times’) and should major development be required a financial framework is already in place to charge for this element.

4.6.3 Prime contractor

This model describes the now relatively ‘standard’ situation of the ‘prime,’ normally the manufacturer of the platform (for example BAe Systems or Agusta Westland) managing the maintenance process for the platform. In civil aerospace Boeing’s ‘Goldcare’ and Airbus’s A400M Integrated Support Solution (ISS), are examples of major civil

platform manufacturers moving towards a 'prime contractor' type scenario, instead of the more usual MRO model.

A key characteristic in the prime contractor scenario is that the primes operate under a more traditional customer-supplier style relationship (bow-tie) with their subcontractors and visibility up the supply chain for these subcontractors is minimal. Fear exists within the other manufacturers on a given platform that as subcontractors under the Prime Contractor arrangement they will simply be 'squeezed' to offer continually lower prices to meet MoD cost targets.

In order to combat the danger of partnering deteriorating under this type of arrangement, prime contractors such as BAe Systems aim to move to take a greater 'orchestration' role within their supply chain as pressures increase for greater partnering. This was evident at the Availability Symposium with Steve Nicol from BAe Systems actively participating in a discussion about supply chain orchestration. He expressed the opinion that BAe desired to become the orchestrator and encouraged partnering and visibility throughout their supply chains.

4.6.4 PFI companies – Airtanker

Airtanker is a consortium comprised of five shareholder companies⁴ selected by the Government as a provider of refuelling and transport services to the MoD. The contract has been awarded for a 27 year period and as part of this, Airtanker will provide Airbus A330 aircraft to the RAF on an availability basis.

The contract is constructed as a Private Finance Initiative (PFI), with the RAF being responsible for operation of the aircraft but all other services being performed by Airtanker on a Contracting for availability basis. In addition to the availability of aircraft, Airtanker will provide support infrastructure and training services.

The key feature of the concept is that a separate company has been formed from a partnership between the five shareholders and will employ staff recruited specifically to support this contract. It will require partnering both between industry companies and

industry and military and is a true example of ‘Integrated key account management’ explained earlier in this chapter.

4.7 Conclusions

Following extensive interviews and comparison of contracting arrangements within the MoD – Industry environment, it was clear that there is a huge diversity across the whole spectrum of contracting, partnering and supply chain activity. Determination to be different was evident throughout every IPT, and in addition the contracts in place are a mix of platform, system and commodity.

In addition, as industry attempts to increase their share of a reducing defence spend, an increasing diversity of innovative solutions to partnering exist within both the civil and military environments.

Within the contracts examined it was evident that there was a lack of a cohesive approach within the MoD for understanding the key differentiating requirements of any given platform, system or organisation. This means that it is therefore difficult to ensure that any contract supports the core competency that is hoped to be delivered. There appears to be a general lack of understanding in the MoD IPT’s of what factors really ‘add value’ to their operations.

During our research there appears to be a relatively simple separation between military platforms, systems or organisations where availability and reliability (ability to complete a given mission) are paramount and where tactical advantage can be obtained. As an example, the C130 is simply used as a platform to carry equipment and troops, whereas the Helix equipment must in itself offer technical superiority.

Following the Easyjet interview, it was clear that they had developed specific project management capabilities to mitigate perceived risks likely to be incurred in completely subcontracting a service. This is supported by the concept that in areas where there is a high knowledge of risk/increasing cost of risk, these activities are better managed internally.

Primarily there appears to be 3 spheres of potential development activity in considering how far partnering can go:

- Contractual sophistication
- Supply chain and network structure
- Partnering development

In order to summarise, there appears to be scope for considering a continuum of partnering solutions. At one end of this continuum is the Prime Contractor model dealing with a highly standardised, availability/reliability type contract to support a given asset or platform. At the other end of this continuum is a highly customised supply chain partnering arrangement constructed by an ‘orchestrator’ to deliver specialist capability in order to support key core competencies. It is highly possible, given the need to manage risk that this orchestrator will be the MoD itself, possibly in conjunction with a number of long term industry partners.

The key for any industry contractor attempting to enter a partnering arrangement with the MoD is understanding the requirement and being flexible enough both to be able adjust their offering on the four spheres given above and also to be able to offer a range of innovative contracting solutions. No one combination of contracting and partnering arrangement will meet all requirements; the likely winners in this arena will be able to offer a ‘menu’ of solutions.

¹ McDonald, M and Christopher, M (2003). *Marketing – A Complete Guide*. Palgrave Macmillan, Basingstoke, Ch. 12 p269-286.

² Humphries, A.S and Wilding, R. (2002). Sustained monopolistic business relationships - A UK defence procurement case. *European Journal of Marketing*, Vol 38, No. ½, 2004.

³ The Star Alliance has over 10 major airline members including Lufthansa, United Airlines, Air Canada, Scandinavian Airline Systems and Thai Airways

⁴ Shareholders are Cobham, EADS, Rolls-Royce, Thales UK and VT Group

5. Factors That Impact Partnering

5.1 Introduction

5.1.1 Background

The previous chapter considered a number of aspects of how far partnering might go as a continuum of options. At one end of the scale, contracting for capability was the idea that the MoD should distil its requirements into distinct capabilities and then contract for an external agency to provide that capability. The Airtanker PFI was the cited example but a similar principle could be applied to contracting for the surveillance of a defined area with the duration, definition and refresh rates specified in the contract. In this case it is feasible that the means or platform (UAV, Satellite, or manned land/sea/air vehicle) need not be specified. The important point is that the surveillance information is provided. At the other end of the scale was the concept of supply chain orchestration, where an agent skilfully managed and updated military assets from the global supply chain according to evolving requirements. To a certain extent the civil airline sector's use of an MRO provides a simple example of supply chain orchestration. Furthermore, if the MRO model appeared suitable would it be employed by the MoD or would it part of the MoD? To consider how far partnering can go in either of these cases as well as the states in-between it is essential to have an understanding of the issues and barriers that might impact the progression of partnering.

5.1.2 Aim

The aim of this Chapter is to consider the factors that might impact the evolution of partnering arrangements with industry.

5.2 Overview

This chapter will consider the partnering concepts outlined in chapter 4, reflect on their implications and highlight factors that might prevent successful adoption. To determine which areas this chapter would focus on, an analysis of the interviews detailed at

Appendices 5 to 12 were reviewed to identify recurrent themes as listed at Appendix 13. These themes were then distilled into six topic headings: relationships, finance and budgeting, risk, culture, people management and organisation. The conclusion draws out the key issues and what may be the barriers to forming effective partnering arrangements between industry and the MoD.

5.3 Relationships

While there is a significant body of literature emphasising the value of relationships it should also be remembered that relationships only need to be fit for purpose, a concept clearly shown by Johnson's¹ model shown at Figure 5-1.

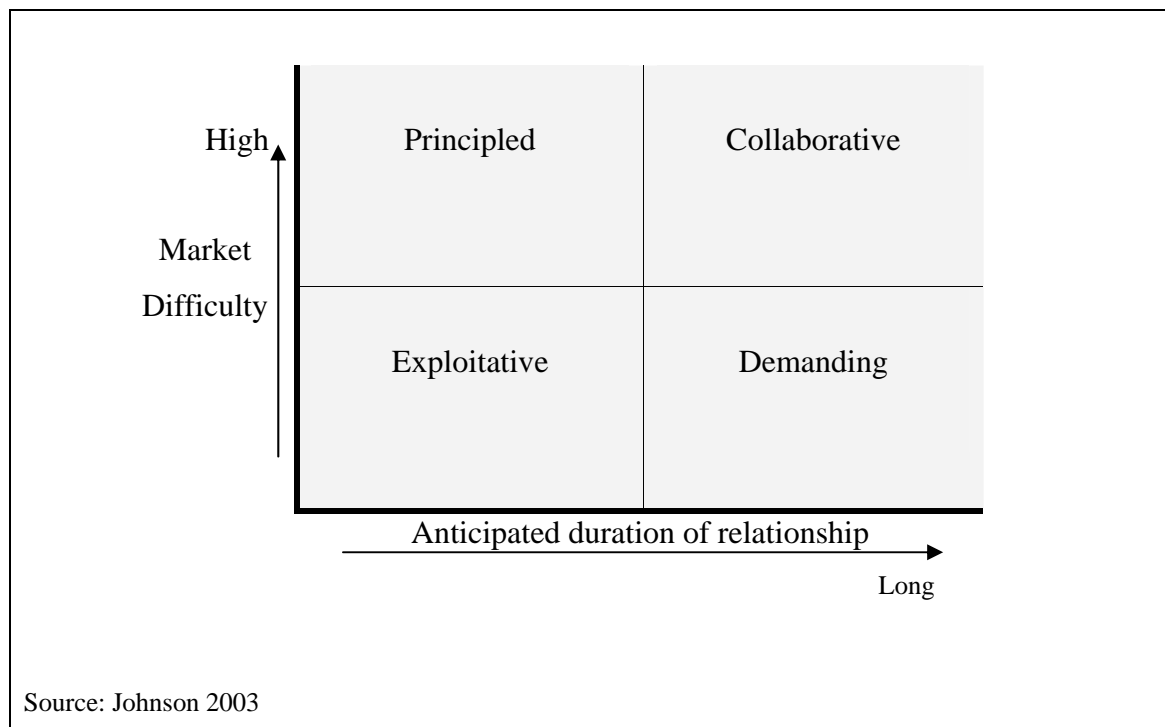


Figure 5-1 - Johnson's Relationship Model

For example this model suggests that in a plentiful market where short term relationships are more common, a relationship is likely to be exploitative. Conversely, in a difficult or specialist market which requires longer term approach, a collaborative relationship is more likely to maximise competitive advantage. Such an approach can also be applied to the MoD. Some of the equipment or services provided could be

considered routine business, for example many elements of air platform availability. However, there is also equipment or services that in defence terms provide considerable competitive advantage which needs to be sustained in the long term. In such cases, support of these specialist weapons systems is more suited to more sophisticated collaborative relationships.

A crucial element to a long term collaborative relationship is trust where trust can be considered as being exposed to vulnerability,² and being prepared to accept that exposure. Trust can be considered on three levels;³ at the lower end of the scale is contractual trust, based on the mutual expectation that promises of a written or verbal nature will be kept. The next level is competence trust based on the confidence that a trading partner is competent to carry out a specific task whilst goodwill trust at the highest end of the scale is based on commitment from both parties so that they will do more than is formally required. Recognising the importance of trust, the levels of development and understanding Lendrum's (2003) view, which likened the development of a business partnering arrangement to marriage,⁴ could be important in determining how far MoD partnering with industry could go. Also significant is Shortland's⁵ (2005) view that trust can be considered as a slowly acquired intangible asset jointly owned by two parties which can be destroyed very quickly.

However, where trust can be established, Lendrum's (2003) model suggests considerable benefit. An example of the influence of trust in a relationship was apparent during the interview of the Mission Systems section of the Nimrod R1 IPT.⁶ They cited a case of a former Chief Technician being selected for his service knowledge and his ability to build effective relationships. As a result the contractor was able to resolve longstanding problems that had built up as a result of deteriorated relationships.

Trust is not the only component of successful relationships. A number of interviews confirmed Cohen et al's (2007) analysis⁷ that incentives drive behaviour, although in the case of the MoD with little personal incentive it is the contract and associated Performance Indicators (PIs). The C130 IPTL's observation was that clear simple PIs were an essential element of driving desired behaviour, a view echoed by the Sentry IPTL. In comparison the Raytheon Project Manager cited the problems caused by a

poor contract, with badly drafted incentives which resulted in a lack of trust with poor relationships. Probably the key element in relationships that provides a need for trust and provides a framework for useful PIs is to have a common goal.^{8&9} A clear goal, with easily understood PIs and incentives alongside high levels of trust are important factors which impact partnering. Ideally such unity of purpose should also be seen in the way finance and budgets are organised

5.4 Finance and Budgets

Finance and budgets were a reoccurring theme in many of the interviews conducted. Further investigation suggests a degree of disjointedness which must ultimately influence how successful partnering will be and how far it might go. In the interview with the C130 IPTL it was considered that in the current financial climate the traditional way of doing business was unaffordable,¹⁰ while the Av and Air EW IPTL highlighted that under the current budgetary regime IPTs were constantly under pressure to protect their budgets. These budgets, allocated as an annual or “in year spend” were often subject to seemingly arbitrary and unpredictable cuts from MoD centre.¹¹ Particularly vulnerable were uncommitted funds. Consequently, there was an increased drive to commit¹² spending as safeguard against further cuts. Often through long term, all encompassing contracts, as a means to preserve historical budgets and spending levels. The ability, or inability, of these contracts to adapt to future needs was raised as one of the important issues by the Av and Air EW IPTL

Another example of incoherence was apparent when discussing the evolutionary Nimrod Integrated Support Contract (NISC).¹³ NISC 1 passed responsibility for scheduled maintenance and the provision or repair of 26DL and 27M¹⁴ components to BAE Systems until the planned out of service date in 2008 alongside a separate contract with Rolls Royce (RR) to maintain the Nimrod’s engines. NISC 2 extended the agreement to 2011 and made some progress towards an availability contract. The intention was for NISC 3 to integrate the remainder of the Nimrod’s systems including its mission systems into a single availability contract. Despite extensive negotiation, at considerable cost to industry,¹⁵ with value for money agreed, there was no contract. The contract was based on an unattainable¹⁶ specification demanded by Strike

Command (STC). As such it proved unaffordable. Furthermore, the full value of the savings made in STC would not be shared with the IPT. The overall effect was that inter-departmental budget structures meant wider MoD benefit could not be realised. If there had been a way to flex savings and a commitment to tailor the contract to what was needed, as oppose to what was wanted, a successful outcome might have been achieved.

Incoherence in contract types and methodologies was also recognised during the course of the interviews. Each contract was different. The Sentry¹⁷ contract, with Northrop Grumman (NG) was considered as providing a service between availability and capability. C130 was considered in a similar vein except that it was termed a serviceability contract, but with its simple PIs was considered to have some advantages over the E3 contract. Both were different to NISC 2 and Av & Air EW IPT's inspirational Commodity Availability Procurement Strategy (CAPS).¹⁸ It could be speculated that a more corporate approach to contracting would benefit the MoD, particularly in light of the MoD centre's arbitrary approach to budget cuts and redistribution of funds. By comparison, in industry there is considerable focus on the financial bottom line with individuals, being directly accountable for the profit and loss (P&L) for their part of the business. The point emphasised by Steve Nichol,¹⁹ who now works for BAE Systems, was that P&L responsibility was probably one of the most marked differences when moving from a senior post in the RAF into industry.

Financial rigour in industry means that each individual is focused only on their ideas which directly boost their P&L.²⁰ Therefore partnering will be considered irrelevant unless there is direct benefit to their P&L. Within the MoD the problems are different. IPTLs appear to retain firm financial control within the boundaries set. However, because there are strong elements of central budgetary control, verging on interference, responsibility is diluted. At the higher levels of the organisation financial disjointedness is also apparent. Constant revision of budget allocations in conjunction with interdepartmental competition presents an ever changing view to industry. This in turn must impact the success of partnering.

5.5 Risk

There is also a different perception of risk between MoD and industry. In simple terms risk has two elements,²¹ probability and impact, which can be illustrated by the matrix at Figure.²²

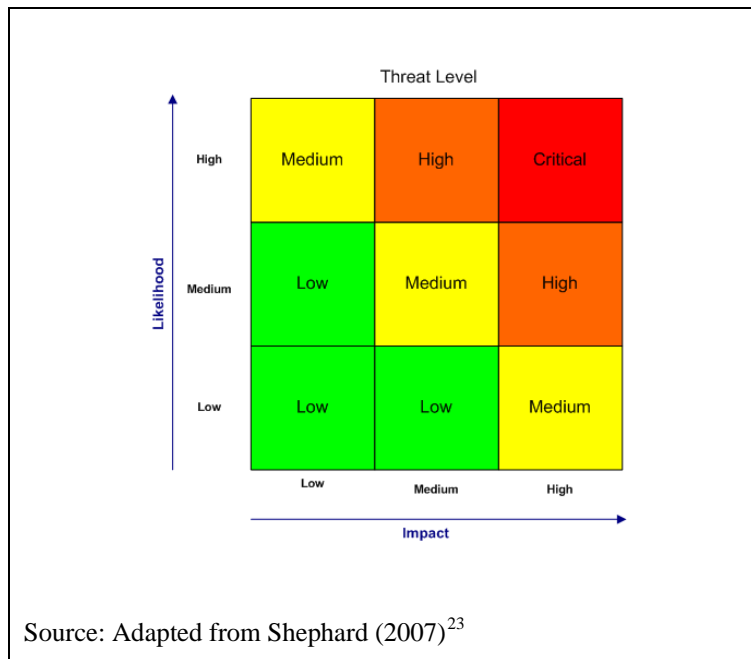


Figure 5-2 - Risk Matrix

In industry risk can usually be distilled to a financial value because usually there is a cost, or occasionally a windfall that can be attributed to an event. A typical example of risk management in the commercial sector was provided by one of the project managers on the Peterborough Schools PFI programme.²⁴ In this case the risk assessed was the need to install a new fire sprinkler header tank at a cost of £37,000 against a probability of 50%, so that the overall risk value was £18,500. This risk, along with all the other possibilities was calculated to deduce an overall risk value to the programme that was built into the cost.

A similar approach is taken by the defence industry. At one end of the scale where there is considerable experience and knowledge of the risks associated with a programme, valuation and management of risk is straightforward, just as it was in the

case of the schools PFI project. Risks at this end of the scale, which should be within the bounds of normal management, might include equipment reliability rates, maintaining delivery times and financial inflationary effects. It becomes more difficult at the other end of the scale where the MoD and a defence contractor might be faced with risks associated with operationally capable systems that are more difficult to quantify or manage. Examples might include maintenance of an operational system under fire, maintenance due to battle damage, obsolescence due to rapid technology refresh rates and continually changing requirements due to the evolution of war/combat. More extreme still is the threat of death or serious injury or the total loss of a weapons system.

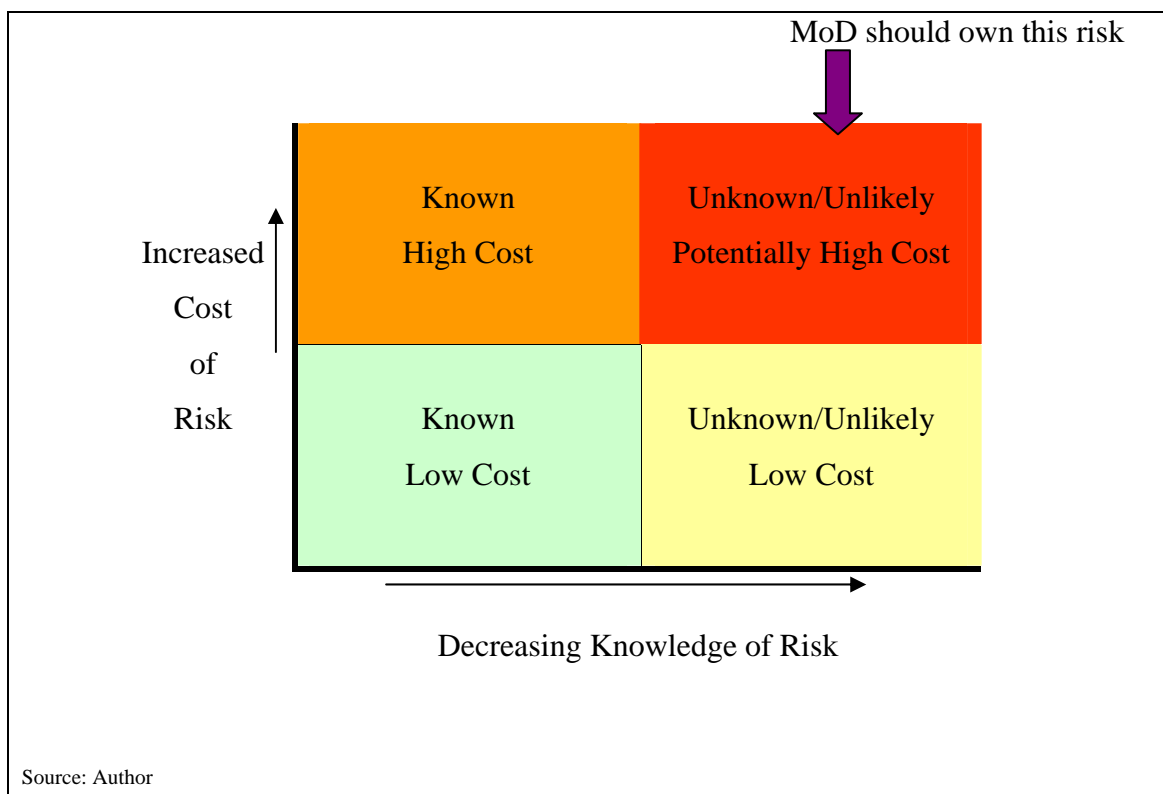


Figure 5-3 - Risk Ownership Matrix

In instances such as this it is more difficult to quantify, evaluate and ultimately allocate risk. The risk matrix drawn at Figure 5-3 is suggested as a model to assist MoD and industry partnering by providing a basis for analysis and allocation of risk. It was apparent during the interviews of the desire of the MoD to pass risk to industry. There is some support of that view from industry, who would argue that there have not been

any instances of loss of operational capability due to a contractor defaulting on his obligation.²⁵ Even if a contractor is able to cover the risk to guarantee a service, there is often reluctance on the part of the MoD to pay the price costs demanded. By using the Risk Ownership Matrix a realistic assessment can be made of how risk might be managed. Risk lying in the top right quadrant of the model is unknown or expensive and therefore necessitates MoD (customer) involvement. Furthermore, resolution to these risks is more likely to require action on both sides which suggests a collaborative partnering arrangement is essential. The author's view is that it would be naive to believe that industry can be held responsible for all risks without a considerable insurance premium. Therefore in the final analysis, successful partnering would depend on a collaborative approach to risk. Risks lying in the top right quadrant of the model should be managed by the partner most able to influence the risk factors or most likely to suffer the consequences.

5.6 Culture

The requirement for a more relationship focused culture where common “win-win” goals are sought, instead of an arms length adversarial relationship is seen as a critical element of successful partnering.^{26&27} Johnson and Scholes (2006) work²⁸ identified the components of culture, as shown at Figure 5-4. Furthermore understanding and in some cases adapting to the culture of an organisation is essential to forming viable partnering arrangements. An adversarial approach by MoD staff to industry was identified as a significant issue by all the IPTLs and all recognised the impact of culture and the need to modify it. One tool that could be used to map current and “to be” culture states is Johnson and Scholes (2006) culture web, shown at Figure 5-4 which could be described as a “platform to understand paradigms of an organisation and the behavioural manifestations of organisational culture.”²⁹

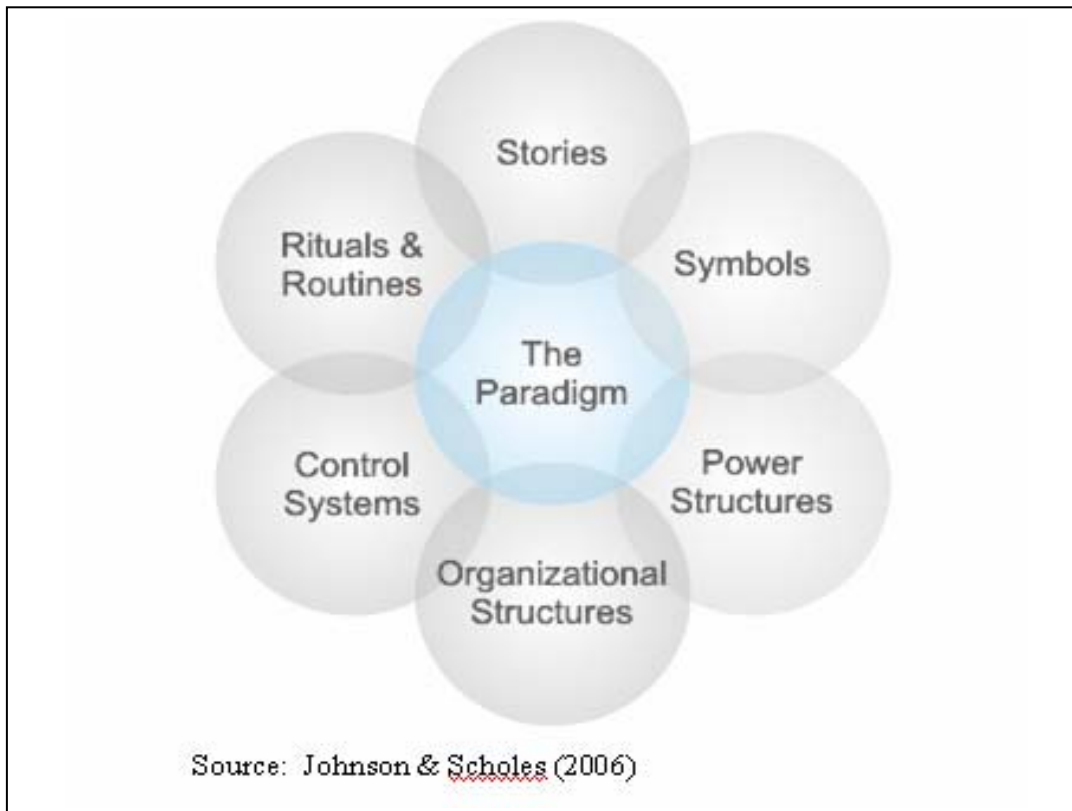


Figure 5-4 – The Cultural Web

Using the cultural web as a tool firstly involves assessing the organisational culture as it currently is, then looking at the desired organisational culture and comparing the two. The differences are obviously the areas where changes need to be made to facilitate the high performance culture that is desired.³⁰ Using this method of identifying required changes can assist in achieving the overall strategic objectives of the organisation. The process of identifying the current situation will also highlight the areas that are currently in line with the requirements and therefore may be used to leverage advantage in terms of the desired strategic outcomes. An alternative view is Kennedy & Teals(2000) model.³¹ Using this model military culture could be summarised as tough guy/macho and work hard/play hard, with a competitive edge ready to exert power. Arguably such a culture is not ideal for partnering and therefore effectively acts as a barrier. This paper's analysis suggests that the cultures required for partnering are actually completely different to those appropriate to combat. An obvious question is: if the operational military culture is not suitable for partnering how do we mould the people to reduce the barriers? The answer might lie in people management.

5.7 People Management

People management is a crucial element that links the preceding paragraphs. It is easy to say an organisation needs good quality people. The difficulty is in determining how an organisation recruits, trains and retains the people it needs. In many respects the armed services has an excellent record of training.³² However, that training is primarily focussed towards enabling military capability. How might people management reduce the barriers to partnering with industry? An example witnessed from the industry perspective is the active recruitment³³ of people from the MoD. Should the MoD take a similar step and recruit more extensively from industry to acquire the skills or attitudes it needs, or are there other measures that should be taken.

Although Johnson's relationship model³⁴ highlighted the time taken for effective relationships to develop, the reality of Service life is that you move on after two or three years. Even in the Civil Service an ambitious individual would regularly change jobs in their quest for promotion. Therefore, to promote successful partnering the MoD would need to retain people in post for longer and maybe consider enabling promotion in post.³⁵ "Jack of all trades, master of none"³⁶ is a common phrase that might sum up a Serviceman's capability. Fight one day; buy a multimillion weapon system the next. By contrast, many of the jobs in industry are specialist: finance, marketing, R&D and Key Account Management are examples. Individuals often need to maintain a specialist skill to retain competitive advantage. It could be argued that similar degrees of specialism are needed in the Service.

Consequently, if an individual is to spend time becoming a specialist in acquisition or through life support it is likely that the military skill will be diluted. Therefore to remove some of the barriers to successful partnering it seems reasonable to have a systemic approach to building specialist capability. Whole career structures within the specialist branch with scope for promotion in post. Alternatively, there might be a realisation that front line operations are the domain of the younger man with acquisition as an ideal second career. Specialist training could then be properly focussed to ensure barriers to partnering were broken down.

5.8 Organisation

An over riding theme when considering the barriers to how far partnering can go is the organisation of the MoD. Figure 5-5 illustrates the new simplified DE&S alongside its relationships with industry and the end customer. Only time will tell if it proves more effective than previous organisational structures and enables good relationships. Cousin’s³⁷ view is that relationship management should start with how the buyer firm interacts within and how effective its internal organisation is. The CRAFT³⁸ tool also reinforces the importance of internal organisation. Other aspects of organisation, such as degrees of centralisation within an organisation, may also impact performance. Alonso³⁹ found that in a supply chain context where managers could see the big picture, decentralised organisations were more effective with an achievement level of 54% against their centrally organised counterpart’s level.

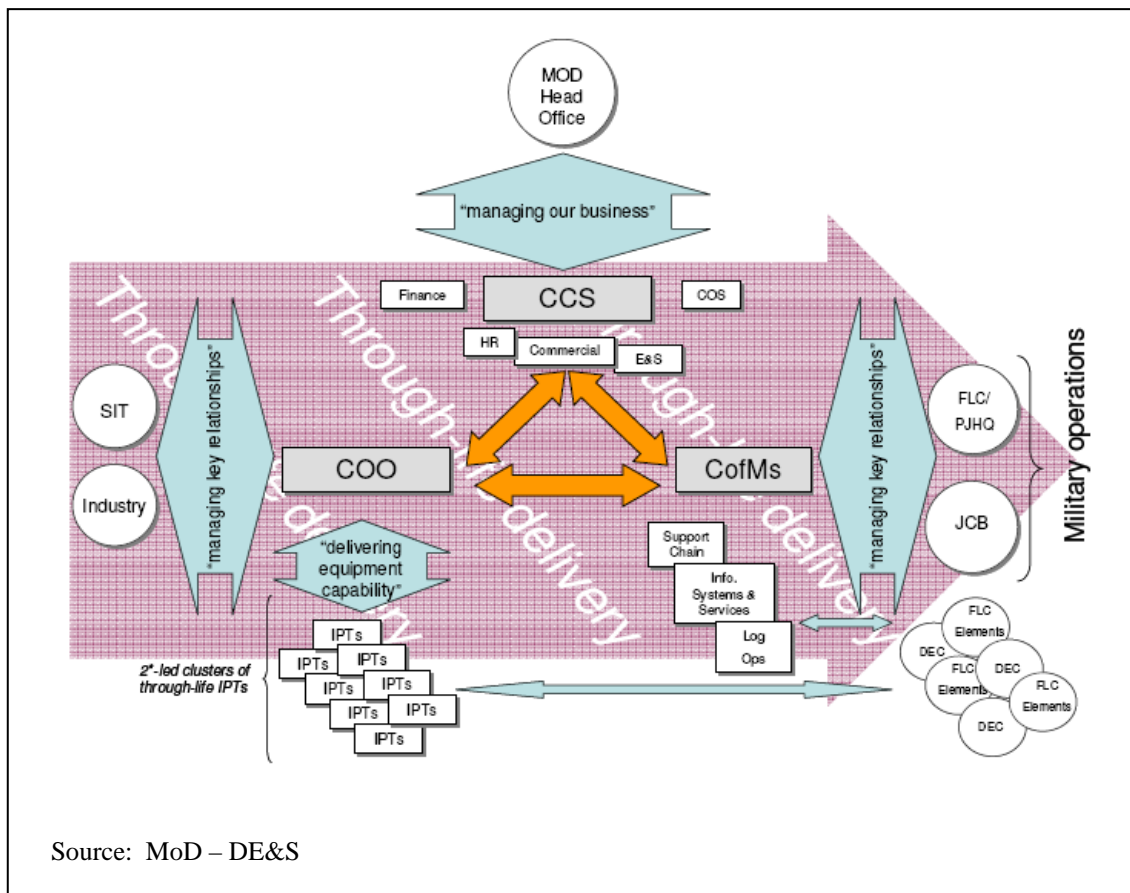


Figure 5-5 – DE&S Business Structure

Similarly, the internal organisation of the MoD needs to be aligned. Jacobs et al state that it is the whole supply chain and the relationships that add value,⁴¹ and that there are a number of cultural and behavioural shifts that must be instilled to realise the new value chain, these include: shared work to create trust, joint value creation, killing the sacred cows, leadership, incentives and reward. In and Boddy et al's⁴² and Cousin's⁴³ view the most important aspect of relationship building is, of course, the need to integrate internal organisational functions; without the internal integration and coordination of functions it is impossible to create a coherent and efficient relationship strategy. Although the business schematic outlined in Figure 5-5 appears to promote a close working relationship with industry, at first sight it is still hard to identify a coherent path through the supply chain to the customer.

Where organisational structure might be particularly important is what contracting model the MoD chooses. If the drive remains towards contracting for capability with increased outsourcing where industry takes an increasing degree of responsibility, IPT's may become basic key account managers with their roles eventually absorbed into the front line commands. An alternative is supply chain orchestration where every element of the global supply chain was managed for the best combination of value, capability and flexibility. A further alternative is Easyjet's model; with this approach routine requirements could be still be outsourced but competitive advantage would be developed in-house or with trusted agents. These agents could combine or be organised to manage specialist capability across platforms or possibly be niche providers and maintainers of particular equipments, in effect being responsible for shelf space on a platform. In each case the combinations would be chosen to maximise the competitiveness of the weapons system. If such a model was adopted a role for IPT's would remain. Whichever model is chosen the MoD would need to determine the skills and behaviours required and the training needed.

5.9 Conclusions

The aim of this Chapter was to consider the issues and barriers that might impact how far new types of partnering or partnering arrangements might evolve. Relationships were considered very important with trust forming a crucial but fragile element in

promoting success. A lack of joint performance indicators and incentives were noted in many contracts, in particular the C130 IPTL indicated that “clear and simple PIs were an essential element in driving desired behaviour.” This points to the requirement to have a common goal among partners. Many of the interviewees commented on an incoherence within the MoD on finance and budgeting. A culture focussed towards annual spending rounds where there is a danger of uncommitted funds being removed before the end of each financial year does not promote a coherent long term acquisition strategy. Furthermore, the poor visibility of costs against certain contracts and services combined with the inability to re-allocate departmental funds meant overall MoD wide value for money opportunities were lost. Additionally, MoD changes in personnel and interference from central staff often reduced personal financial accountability, in contrast to industry where individual profit and loss responsibility is the norm.

It was considered that it is important to manage risk in partnering arrangements. At one extreme, risk can be considered a straightforward concept that can be routinely budgeted and managed. However, at the other extreme, significant operational risks are more difficult to manage. The current practice of attempting to pass risk over to industry is both potentially unwise as the MoD may still be exposed to the risk and, the cost is likely to be unacceptable. Instead a mechanism should be developed to realistically assess and allocate risk, ideally with some preset criteria or model suggested at Figure 5-3, which can be used as a basis for deciding which risks deserve special management and by which partner. This should ensure that the risk is allocated to those that are best able to manage it. Examination of culture emphasised the need to understand the culture of an organisation, how that culture influences people and how it might impact partnering arrangements. Additionally the potential usefulness of the cultural web was considered as a device to map an organisations current culture and its “to be” culture.

People management remains an important thread when considering successful partnering arrangements, as it is people who will address the issues highlighted in this chapter. Most important is how people management is used to build up the required body of skills. Options include: directly recruiting people with the required skills from industry, specific training to address the skills required, enabling a specialist career path

within acquisition that enables effective relationships and partnering, an extreme would be to have to have a virtually non military agency, perhaps populated by former serviceman. Overall the organisation should enable clear site of objectives through the organisation from frontline to factory floor with relevant PIs, with clear understanding of the big picture, managers should be provided with both autonomy incentive and accountability to achieve their objectives.

However, the MoD must also have a clear vision of how far and what direction it wants to evolve partnering and organise accordingly. One option would be to act as an outsourcing agency with long term contracts for capability. An alternative would be to position itself as a supply chain orchestrator. More desirable is a sophisticated combination, possibly closer to Easyjet's model. In this combination, routine requirements could be outsourced and competitive advantage is developed with trusted agents. These trusted agents could combine or be organised to manage specialist capability across platforms to maximise the competitiveness of the weapons system

¹ Rob Johnson, (2003), *Supplier Management*, Supply Management 10 April 2003.

² Nixon, P., June 2007, During a lecture room discussion on trust with FTMB (Defence)

³ Sako, M.,(1992) in Pittaway, L. and Morrissey, B (2004), op cit.

⁴ Lendrum, T., (2003) *The Strategic Partnering handbook: The Practitioners Guide to Partnerships and Alliances* (4th Ed) McGraw Hill, Australia.

⁵ Shortland, S., (2007) *Participation, Justice and Trust within Developmental Peer Observation of Teaching: A Model Research Agenda*, The International Journal of Management Education. Vol 6, No 1 2007.

⁶ MSb Interview

⁷ Cohen, S.A., Kulp,S., Randell, T.,(2007) *Motivating Supply Chain Behaviour: The right incentives can make all the difference*. Supply Chain Management Review, May/June 2007, Reed Publishing

⁸ Ford, I., 2003, *Partners in Progress*, Supply Management 19 June 2003.

⁹ Searles (2003) *The Goal Standard*, Supply Management, 24 April 2003.

Ford

¹⁰ IPTL interview Appendix 9

¹¹ IPTL interview Appendix 7

¹² Once committed to being on contract it is more difficult to withdraw that funding

¹³ Sqn Ldr Bob Parker Appendix 5

¹⁴ 26DL & 27M are logistics classifications for particular ranges of components, mainly nimrod airframe items

¹⁵ Thales as part of TSS – Chris Borrill

¹⁶ There were insufficient crews to fly the number of aircraft demanded by the specification.

¹⁷ E3 IPTL

¹⁸ Availability based contracting for a wide range of Av & EW commodities

¹⁹ Symposium

²⁰ View from Av&EW IPTL + Chris Borrill

²¹ AMS Risk Management Guidelines

²² Risk Management, Lt Col Mark Shephard RAE DPPM Module to FTMB (D) 2007

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- ²³ Risk Management, Lt Col Mark Shephard RAE DPPM Module to FTMBA(D) 2007
- ²⁴ Interview with Nicolas for PM report
- ²⁵ Chris Borrill
- ²⁶ C130 IPTL
- ²⁷ Thurairajah, N. Haigh, R. & Amaratunga, R.D.G. (2006) *Cultural Transformation in Construction Partnering Projects*. Research institute for built and human environment, University of Salford.
- ²⁸ Gerry Johnson, Kevan Scholes, Richard Whittington, *Exploring Corporate Strategy*, 7th Edition, FT Prentice Hall 2006.
- ²⁹ Thurairajah, N. Haigh, R. & Amaratunga, R.D.G. (2006) *Cultural Transformation in Construction Partnering Projects*. Research institute for built and human environment, University of Salford.
- ³⁰ The Cultural Web - Aligning your organisation's culture with strategy. URL: http://www.mindtools.com/pages/article/newSTR_90.htm
- ³¹ Deal, T.E., Kennedy, A.A., 2000, *Corporate Cultures: Rites and Rituals of Corporate Life*, Perseus.
- ³² Sadler, A., 2007, PMAN project
- ³³ Interviews/Symposium highlighted many examples of ex servicemen working for industry eg Steve Nichol, Dave Young, Barry Smith, Audiosoft recruitment.
- ³⁴ Johnson (2003), *ibid*
- ³⁵ Junior Officer FO/FL posts are an example
- ³⁶ The New Dictionary of Cultural Literacy, <http://www.bartleby.net/59/4/jackofalltra.html>
- ³⁷ Cousins, P (1999) Edited by Richard Lamming, Andrew Cox (1999) *Strategic Procurement Management – Concepts and Case*, Earls Gate Press, Bath.
- ³⁸ CRAFT – http://www.pslcbi.com/pdfs/craft/craft_overview.pdf cit.
- ³⁹ Alonso R. W. Dessen, A.R.W., Matouschek, N., (2006) *When does coordination require centralization?* Working Paper Northweston University.
- ⁴⁰ Alonso R. W. Dessen, A.R.W., Matouschek, N., (2006) *When does coordination require centralization?* Working Paper Northweston University.
- ⁴¹ Op cit
- ⁴² Boddy, D., MacBeth, D. and Wagner, B. (2000), *Implementing Collaboration Between Organisations: An Empirical Study of Supply Chain Partnering*, *Journal of Management Studies* 37:7.
- ⁴³ Cousins, P (1999) Edited by Richard Lamming, Andrew Cox (1999) *Strategic Procurement Management – Concepts and Case*, Earls Gate Press, Bath.

6. Conclusions and Recommendations

In addressing the factors that influence partnering, a research methodology was developed based on a phenomenological approach, as this was considered most appropriate, given the requirement to gain a deep understanding of different partnering approaches within different contexts. A multiple case study approach was adopted as it was felt necessary to assess different partnering arrangements within defence and commercial sectors. In addition, the authors attended and presented the initial findings of the study at the Availability Symposium at Shrivenham; this proved to be extremely valuable as there were many influential industry representatives present who instigated some interesting discussion and feedback.

6.1 Aim

The aim of this chapter is to bring together the findings of this paper and draw conclusions on the factors that influence partnering.

6.2 Literature Review

The literature review, which included previous dissertations, encompassed partnering, relationships, culture and supply chain management. It provided the academic foundation for the paper, enabled the consideration of various contract types and provided the basis for the development of Models. Interviews provided a rich source of data on current contracting and attitudes from MoD employees and civilian contractors in the Defence industry. Further information was gained by attendance and presentation of initial findings at the Symposium, alongside the opportunity to test the author's early ideas. An equally important alternative perspective was provided by the interview which took place at Easyjet.

This chapter informed some of our early thoughts. Partnering is clearly not an easy option and takes considerable time; however significant benefits can be obtained if implemented successfully. The MoD have shown a firm commitment to change the

way it does business and to adopt a partnering approach, as it sees this as the best way to reap the benefits that are available. The requirement to make a conscious decision about when to partner was highlighted in several papers as was the key steps required to ensure successful partnering. Studies have shown that some partnering arrangements with the MoD have been and are successful, however the problem of adversarial relationships remain along with a general lack of trust. The monopolistic environment of the defence industry also causes problems.

6.3 Development of a Contract Analysis Model

To aid our research, a contract analysis Model was developed based on the MoD's transformational staircase and the components of a military capability. The Model that the authors created proved highly effective for quickly depicting an overview of support contracts in both the MoD and Civilian environments. This overview highlighted that there is not a 'one size fits all' approach to contracting and that the MoD does not appear to have a coherent approach. Although useful for a general overview, the Model was of limited use in terms of guiding and informing future contracts. An interesting point that the Model did expose was the MoD's perception that progression up the y-axis towards contracting for capability was always desirable. This almost dogmatic approach does not take into account the varying needs, requirements and the associated risks of each individual capability requirement.

6.4 Analysis

The Contract Analysis Model was mainly aimed at the aerospace sector, influenced primarily by the availability of interviewees. The Model was used to gather information from IPTs and from the availability symposium; this allowed us to determine its usefulness and applicability. Partnering progression was explored looking specifically at Key Account Management. Additionally, industry trends were considered by reviewing Easyjet, civil aerospace partnering Models, industry alliances and supply chain orchestrators. The chapter then examined defence partnering trends and Models by reviewing Total Support Services, Project Helix, the Prime Contractor Model and PFI.

Conclusions drawn from this chapter emphasise the diversity of contracts and the diversity of contracting options. The review also underlined the lack of cohesiveness within the MoD and its difficulty in understanding the key differentiating requirement in a contract and what factors specifically add value. Furthermore, it seems feasible to separate out routine availability contracts and mission critical competitive advantage contracts. This implies that contracts which attempt to incorporate all components under the same umbrella may not always be the best option. The key implication for industry wishing to partner with the MoD is that they must be flexible and the successful partner is likely to be able to offer a menu of solutions.

6.5 Factors that Impact Partnering

The aim of this Chapter was to consider the issues and barriers that might impact how far new types of partnering or partnering arrangements might evolve.

6.5.1 Relationships

Relationships were considered very important with trust forming a crucial but fragile element in promoting success. A lack of joint performance indicators and incentives were noted in many contracts, in particular the C130 IPTL indicated that “clear and simple PIs were an essential element in driving desired behaviour.” This points to the requirement to have a common goal among partners.

6.5.2 Finance and Budgets

Many of the interviewees commented on an incoherence within the MoD on Finance and Budgeting. The culture within the MoD is focussed towards annual spending rounds where it is felt by budget holders that there is both a need to meet yearly budgets but also the danger of uncommitted funds being removed before the end of each financial year. This contrasted to industry where it is considered generally beneficial to under spend. This leads to financial inconsistency within the MoD leading to short-termism. It was found that the MoD had poor financial visibility of costs against certain contracts and services; this was a major issue when negotiating contracts with partners as the

current costs were inaccurate or simply not available. In addition, in the event that industry was able to offer a value-adding service that reduced overall cost to the MoD this was often rejected due to the inability to re-allocate departmental funds.

This points to the need for the MoD to create cross-department visibility of enterprise-costs that is also available to industry partners. Finally, within the MoD changes in personnel and interference from central staff often tends to reduce true personal financial accountability, in contrast to industry where individual profit and loss responsibility is the norm.

6.5.3 Risk

It was considered that it is important to manage risk in partnering arrangements. At one extreme, risk can be considered a straightforward concept that can be routinely budgeted and managed. However, at the other extreme, significant operational risks are more difficult to manage. The current practice of attempting to pass risk over to industry is both potentially unwise as the MoD may still be exposed to the risk and, the cost is likely to be unacceptable. Instead a mechanism should be developed to realistically assess and allocate risk, ideally with some preset criteria or Model, which can be used as a basis for deciding which risks deserve special management and by which partner. This should ensure that the risk is allocated to those that are best able to manage it.

6.5.4 Culture

Examination of culture emphasised the need to understand the culture of an organisation, how that culture influences people and how it might impact partnering arrangements. Additionally the potential usefulness of the cultural web was considered as a device to map current culture and “to be culture”

6.5.5 People management

People management remains an important thread when considering successful partnering arrangements. As it is the people that address issues highlighted earlier in this chapter; the important fact is how to use people management to build up the required body of skills. Options include: directly recruiting people with the required skills from industry, specific training to address the skills required, enabling a specialist career path within acquisition that enables effective relationships and partnerships an extreme would be have to have a virtually non military agency, perhaps populated by ex serviceman

6.5.6 Organisation

Overall, the MoD must also have a clear vision of how far and what direction it wants to evolve and organise accordingly. One option would be to an outsourcing agency with long term contracts for capability. An alternative would be to position itself as a supply chain orchestrator. More desirable is a sophisticated combination, possibly closer to Easyjet's model. In this combination routine requirements could be outsourced and competitive advantage is developed with trusted agents. These trusted agents could combine or be organised to manage specialist capability across platforms to maximise the competitiveness of the weapons system

6.6 Overall Conclusions

The aim of this paper was to review and analyse literature, current contracts and partnering arrangements between the MoD and its industrial partners. In addition relationships outside the defence sector would be considered as a comparison. This multiple case study project was hoped to enable the authors to make recommendations to promote more effective partnering.

On analysis of the available literature, it was clear that partnering in the defence environment has not been widely investigated. The limited literature available clearly indicates that partnering is not easy, and that development of effective partnering skills

is a highly skilled discipline in itself. In addition, partnering may not always be the best option or be entirely necessary; the appropriate relationship should be selected to fit the end requirement.

The case studies carried out within the MoD and industry, both defence and civilian, also offered a number of conclusions. Firstly, the range of contracting, partnering and supply chain solutions both currently in place and being pursued by the MoD is highly diverse and inconsistent. Little methodology or cohesion is being applied to ensure the selected solutions meet the end requirement or deliver real value.

Secondly, industry has been very active in engaging with the MoD and developing innovative contracting solutions to meet requirements placed upon it. This is evidenced by offerings such as Project Helix, Airtanker and TSS. A range of other innovative solutions was found in non-defence industries, such as MRO and supply chain orchestration. These all appear to offer considerable potential benefit in the right context. There appears to be no 'one size fits all' partnering solution that should be adopted.

Whilst the DIS states that partnering is the way forward, we found no evidence of efforts or joint initiatives between the MoD and industry to further understand partnering and what is required to enhance partnering skills across both organisations. All activity is focussed towards application of specific contracts rather than creating the correct frameworks MoD and industry wide to promote effective partnering.

Finally, significant barriers still exist within the MoD. Despite the stated intention to partner, there is no evidence of organisational or cultural change within the MoD as a result. Historical practices and structures still exist. In order to partner effectively, the MoD must adapt, as staff turnover, lack of partnering expertise, poor financial understanding and inability to correctly manage risk are still prevalent.

6.7 Recommendations

A number of recommendations can be made as a result of our research and analysis.

These are:

Industry must focus on creating the ability to offer a ‘menu’ of solutions to the MoD. Organisation and contractual flexibility within industry is required to meet the highly diverse requirements placed upon it. This will require development of skills and systems in order to tailor solutions within the previously identified 3 spheres of activity:

- Contractual sophistication
- Supply chain and network structure
- Partnering development

Industry and MoD should engage to investigate and develop joint partnering capabilities. This will require formation of organisations and management systems, and most importantly will require financial investment that is not specifically targeted at any given contractual requirement.

The MoD should, in an effort to partner with industry, cast aside historical operating structures and procedures to build an organisation that is capable of meeting and matching industry. This organisation should ultimately be structured to allow capability within the MoD to ‘build’ its own supply chains.

6.8 Recommendations for Further Research

Our research exposed a number of models, which could be used as a basis for future partnering arrangements, ranging from contracting for capability through to Supply Chain orchestration. It is recommended that future research could focus on a specific model and determine the boundaries for that model. How far could partnering go?

Some of the interviewees considered that their partnering arrangements were successful. However there are no consistent performance metrics for successful partnering agreements. It is recommended that future research defines the success criteria for partnering.

Finally if the success criteria and factors are well understood it is recommended that future work should consider how a bad partnering arrangement could be turned into a good one.

6.9 Research Lessons Identified

As a result of our work there are three research lessons identified:

- a. Unusually for a Defence MBA this was a group project. Although there were potentially problems in creating a coherent paper, these problems were insignificant in comparison to the increased learning from working with two highly motivated peers.
- b. Equally valuable was the research carried out by conducting interviews and attending the Symposium. It was this research that has been most influential.
- c. Considerable discipline is required to gather the data and analyse it in such a short timeframe. The author's advice is that future MBA students are briefed on the requirements of the assignment in term 2, before the Easter break.

7. APPENDICES

Appendix 1 – Interview Questions

Research Question.....IPT

"How far can partnering go, what are the implications for those companies involved, the wider defence sector, and the MOD.

The aim of questions below is to get an update on progress of your IPT's partnering with industry and how it could/should progress in the future.

Questions

1. Introduction: Overview of the project and introductions.
2. Aircraft or equipment + any expansion plans.
3. Overview of current support contracts - airframe, engine, component etc.
4. Type of contract (CLS/availability/capability) and scope (platform/major assembly/component) - key points of each contract.
5. To what degree do they partner on contracts, how closely are they linked to suppliers.
6. Why have the contractors been selected & how do these contracts specifically support IPT core competencies?
7. Do you have any examples of particularly innovative contracts that you have in place or have been offered? What features were innovative?
8. What work do you do yourself and why - what are the trends towards in-house work?
9. What are the trends in support and collaboration/partnering - where do you see it going?

10. Did the partnering concepts available influence your fleet selection?

11. How do you measure contractual performance?

12. Are closer partnerships with suppliers becoming more or less important?

13. What features would you look for in a good partner? Would these features be more biased towards technical or human characteristics? Typically what traits are shown by a 'good' partner?

Appendix 2 – Assessment Models

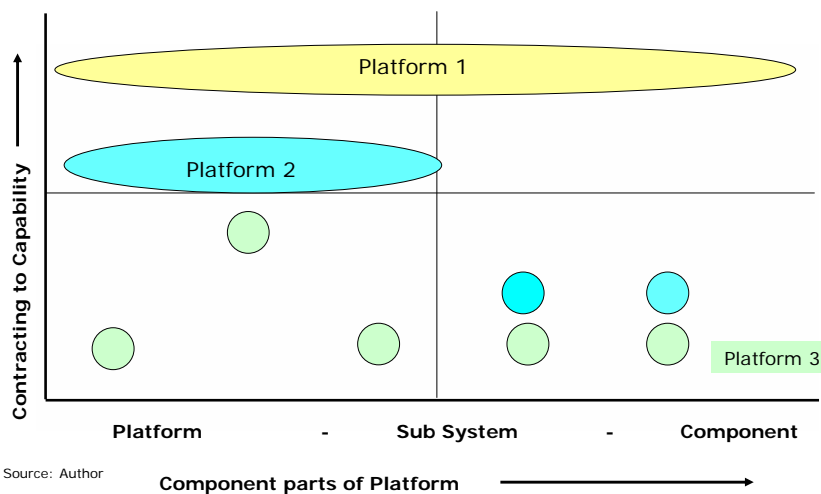
1. Axis Definition

An Assessment Model

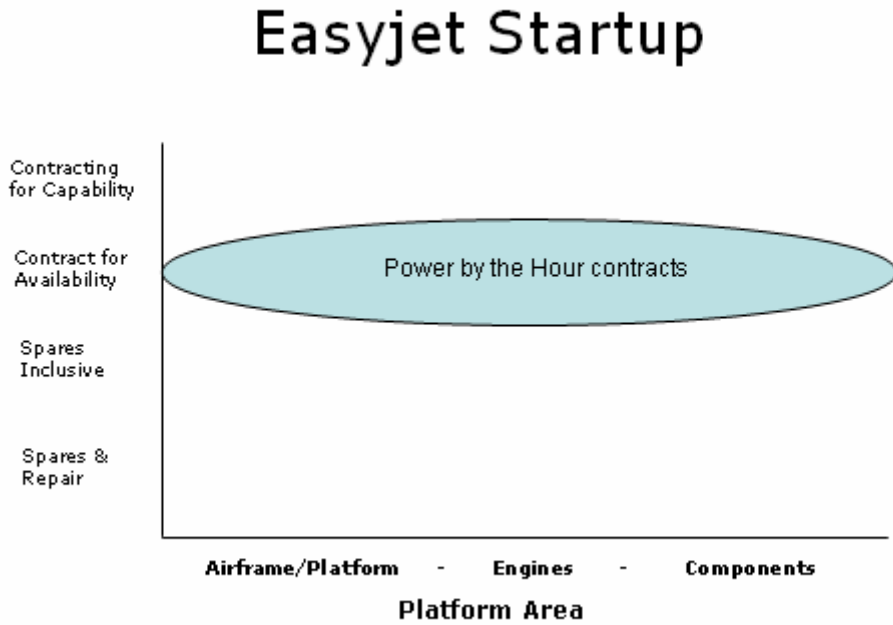
- X Axis
 - Define sub-system and component level eg:
 - Comms Landing Gear
 - Radio Jack
 - Easy level of detail
- Y Axis
 - Define contract level
 - Capability, Availability (CLS), Spares inclusive
 - Spares and repair, Commodity purchase

2. Example Model

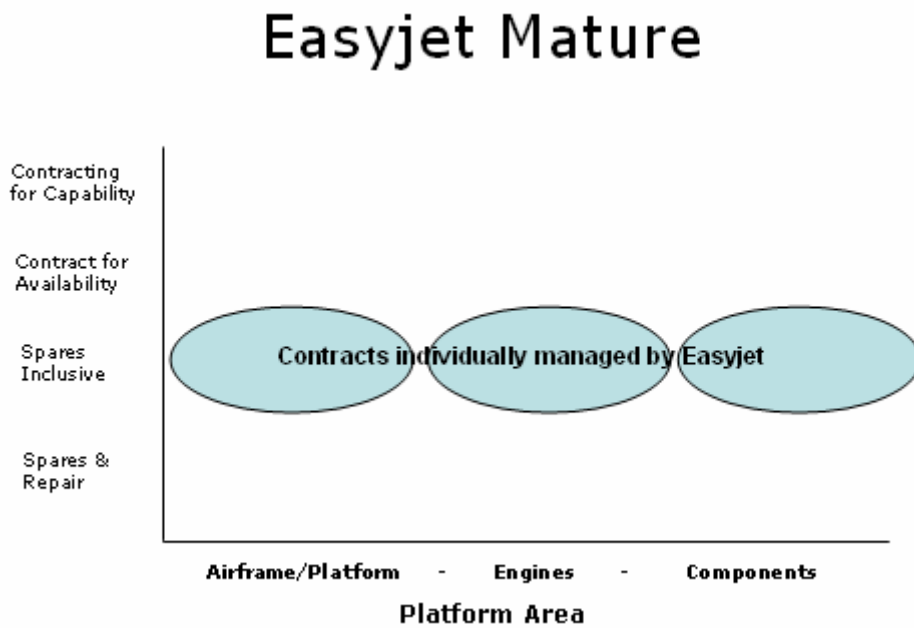
An Assessment Model



3. Easy Jet Start-up

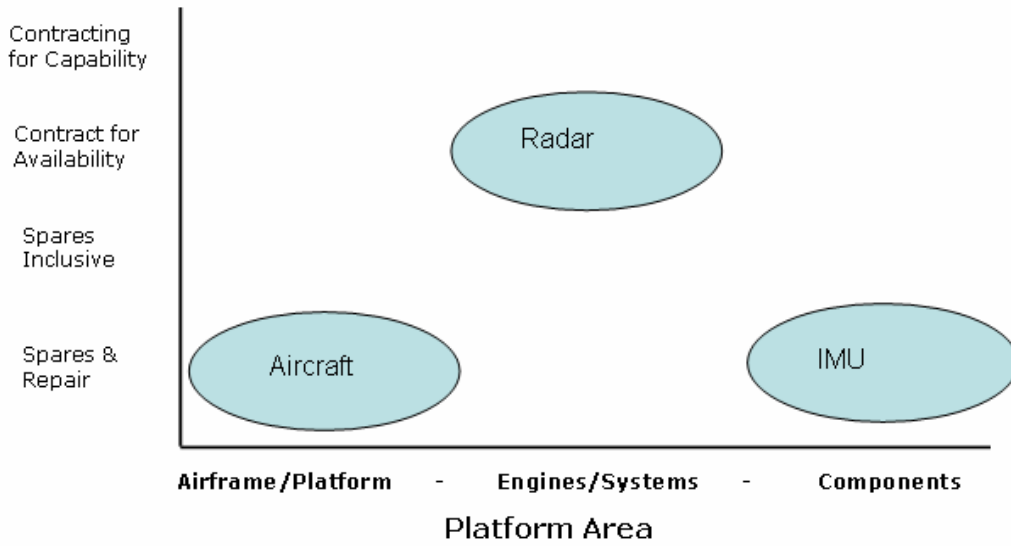


4. Easy Jet Mature



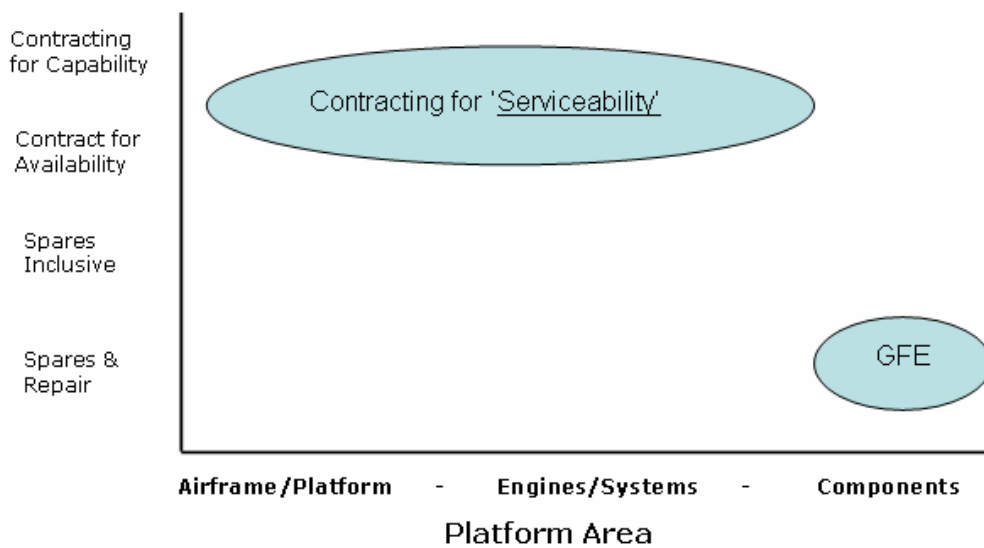
5. Orion P3 Aircraft (Legacy Platform)

Orion P3 Aircraft



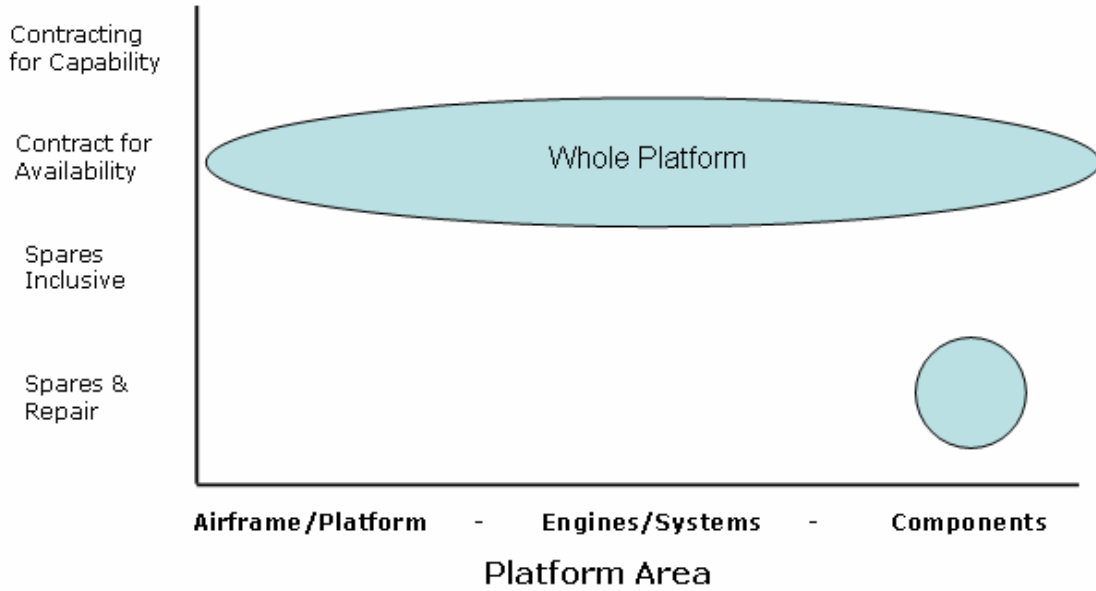
6. Hercules C130 Aircraft

Hercules



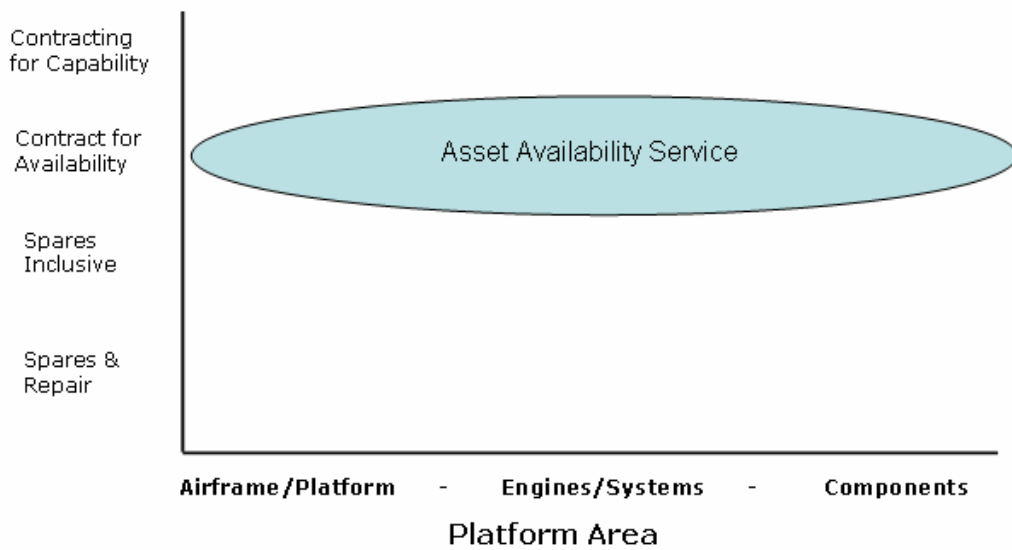
7. Sentry E3 Aircraft

Sentry E3 (UK)

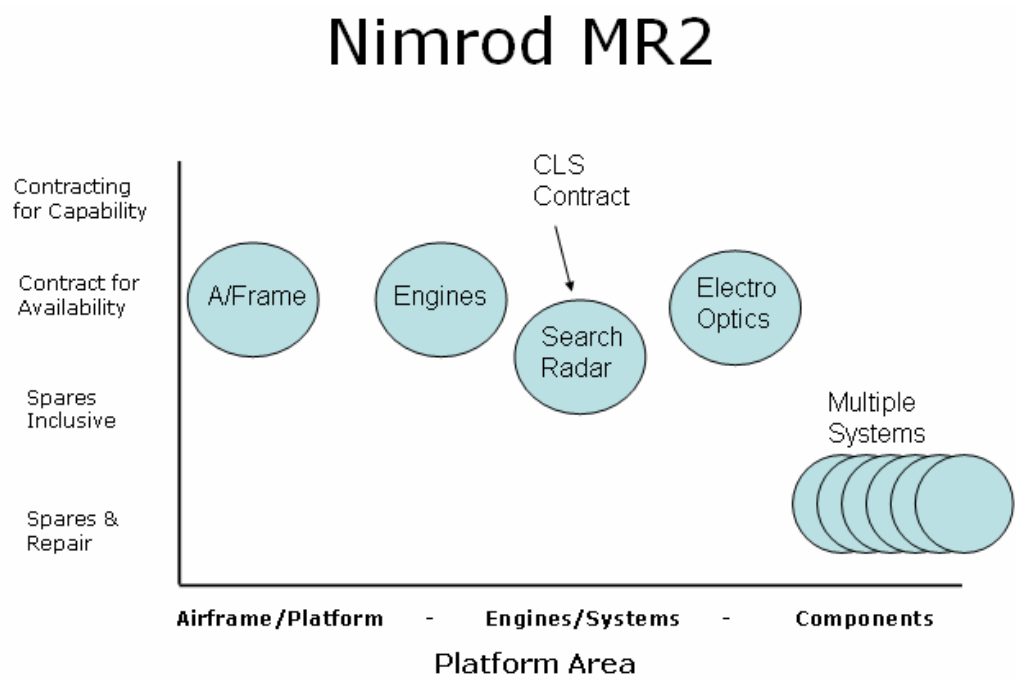


8. Surveillance System and Range Finder

SSARF (Surveillance System and Range Finder)

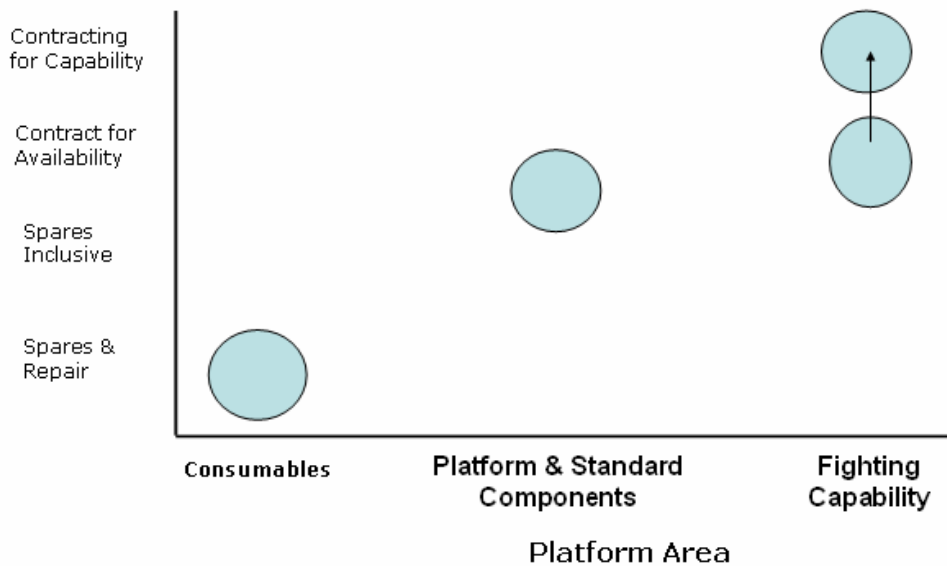


9. Nimrod MR2 Aircraft



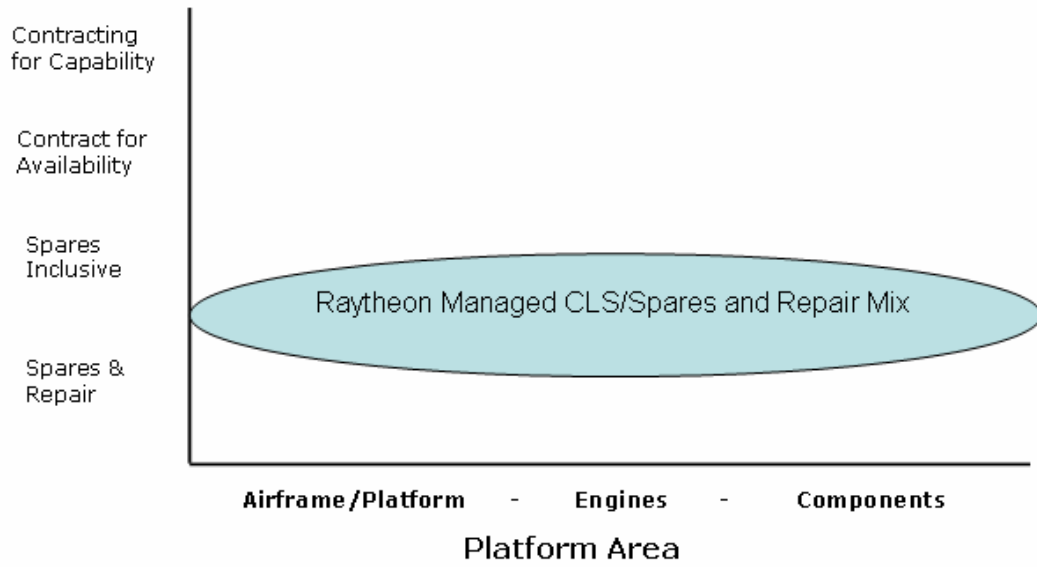
10. Avionics IPT

Avionics IPT Capt. Steve Wiles



11. ASTOR (Air and Ground)

Raytheon - ASTOR



Appendix 3 - Symposium Presentation

Appendix 4 – Easyjet Interview - 12 June 2007

Peter Ellison – Technical Director

Anthony Spouncer - Engineering Systems Manager

Background Information

- They are steadily growing their fleet size by around 15% per year.
- They currently have 102 Airbus 319 and 30 Boeing 737 aircraft.
- The Boeing aircraft will begin to be phased out of service in late 2008 and will be replaced by the Airbus aircraft.

- All the Boeing aircraft are leased and 40 of the airbus are also leased; the remaining aircraft are owned by Easyjet.

- The lease is a fixed term operating lease which includes only the airframe, not the maintenance although aircraft must be returned in a specified condition.

- Maintenance and ownership of the aircraft are kept separate.

- They rely heavily on Competition to keep costs down (commoditise the service)

- Easyjet wanted to outsource maintenance and engineering but legislation requires them to have a small team in house.

- SR Technics maintain the Boeing 737 aircraft and SR Technics Swiss maintain the A319 aircraft.

- Easyjet aircraft do not have a base to come back to; they are scattered throughout Europe which makes maintenance harder to manage.

Following Gulf war 1 the airlines industry struggled and a restructuring happened as a result.

MRO Model

(**Maintenance, Repair and Overhaul** or **MRO** is a multi-billion dollar industry which works on international authorization rules to deliver a safe **airline** operation and to assure reliability and availability of customer fleets.)

MRO's segmented into 4 areas

- Airframe
- Engine
- Components
- Technical

Risk

Within Easyjet, the biggest risk is that the maintenance and engineering is all provided by one company. If that provider goes bust it would mean that the aircraft could not fly. As Easyjet increases in size this risk increases.

They are moving towards more contractors who specialise in certain areas, e.g.

- Line Maintenance
- Tech Services
- Base Maintenance
- Engine and component repair and overhaul

Easyjet currently have a joint venture with SR Technics for the Tech services (EasyTech), however they will exercise their right to buy the company in the near future so that the tech services are done in house, leading to greater control.

- Relationships are seen as very important and it takes time to build them.
- The 'your problem is their problem' way of thinking is very difficult to achieve; alignment of interests is required to make it work and accountability is also very important so that there is a sense of ownership and responsibility.
- Time material contract is deemed to be very good but managing them can be very difficult. ('Pay for what you get')

Trends in support and collaboration/partnering

- Greater number of suppliers and contracts.
- They look for suppliers with the highest probability of giving them what they want, but it also has a lot to do with price.
- Benefits of a higher price must be quantifiable.

Performance Measurement

Performance is measured through

- Reliability
- Availability

Available 18 hours per day. 99.2% target

Partnerships

Partnerships with suppliers

- Management is seen as the vital component.
- Suppliers must be treated like your own people.
- Management of the line or technicians is different to the management of the business side of things.

Described intended migration to future maintenance model with varying degrees of outsourcing. Tech Services was considered critical to the long term health of the business and would be in-sourced, despite SRT's high level of competence.

In-source/outsource mix appears to be a variation on weak/standard/ strong PM matrices.

Evolution of mix also dependent on internal (size of company/competence etc) and external factors (state of market/industry/competition/partners)

- There is no absolute "right" model
- Although experience from market leader (ie South West) is useful
- The ability to adapt to changing internal/external factors is critical

Other impressions of Easyjet

- Want to be well organised and to know exactly what they want.
- Clever use of IT
- Inclusive organisation
- Competition is the most effective method to improve.
- A bit orange!

Appendix 5 – Example MRO Organisation

Principles of ILS Global Approach: FSA+

Overall Principles:

- Word-class In-Service Support;
- Cost-effectiveness

Key Principles:

- Airbus Military undertaking the role of Prime Contractor and integrator for In-Service Support, including Engine support to ensure **overall platform availability and mission effectiveness**;
- Use of common Central Services for technical support, material support and training in conjunction with local support and training centres at National level as needed;
- **Adaptation of services** to match Customer operational needs by means of a modular approach;
- Establishment of an **A400M MRO Network** of aircraft maintenance, repair and overhaul service providers;
- **Component support** according to the 'OEM principle', whereby component support is provided by the Original Equipment Manufacturer, or other approved maintenance centre for low-value items or items with an established support network; and
- **Flexibility** to select service providers according to criteria agreed with Customer, and to work with and support any Nominated Service Provider for certain maintenance activities



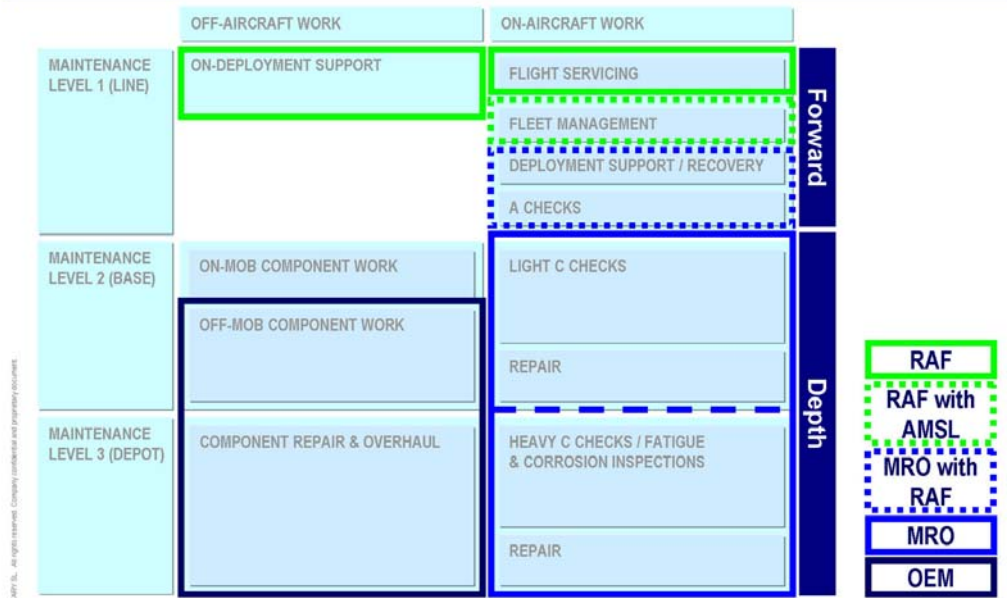
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Work Scope & Support Concept Overview



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Appendix 6 – NIS1 (Nimrod) Interview

Interview with NIS1 – Sqn Ldr Bob Parker – Nimrod IPT 7 Jul 07

Nimrod IPT is responsible for both R1 and MR2 and is organised into:

- Airworthiness & Safety
- Maintain Capability
- Insert Capability
- Enterprise and Business Management

(NB: Reorganisation was result of Strategy to Task work carried out last year)

Brief discussion of impact of formation of DE&S and the merger with what was the MRa4 IPT (note organisation above does not include the MRA4 elements). Merger has exposed financial shortfall.

Overview of current support contracts - airframe, engine, component etc

- NISC – Nimrod Integrated Support Contract
 - Progressive Model
 - Catering for an extension to the out of service date for the Nimrod Aircraft.
 - Does not include the engines - separate Spey Total Support Package (TSP) let with Rolls Royce Apr 2000 (extended Jan 2005) that provides engines within one hour of demand via a hole in the wall at RAF Kinloss.

NISC1

October 2002 – December 2008(original out of service date)

- Transfer of the scheduled maintenance, (major and minor) to industry.
- Included 26DL and 27M components

NISC2

- Moving towards Availability
-

- Extension of the out of service date to 2011
- Availability contract was for the Airframe only
 - 13 out of 16 – this means 13 available to be available to Forward Support but not necessarily serviceable!
- For Nimrod R1, the contract only covers Major maintenance. Minors are done by 51 Sqn.

Subsumed the Logistics Transformation Contract let in 2004 to run till Mar 2011. LTC transferred Aircraft Maintenance Flight and Undercarriage Bay to Industry IAMS – Integrated Aircraft Management System (BAE Systems IT) introduced Medium term work strand delayed letting of NISC2 - LTC was solution for quick financial gains

NISC 3

- Cancelled!
- Was meant to incorporate the mission systems into the availability contract
- BAe were going to be contracted to take over the following:
 - second line bays and avionics
 - RAMS
 - Nimrod OCU ground school
 - Nimrod Maintenance School
 - Technical Support Group (NAEDIT and Nimrod Software Team)
 - Provider element of IPT
- Alliance was due to be formed between Thales, Selex Ultra, BAES Rochester, that would be sub contracted by BAES for all the mission systems – this was the most expensive part of the contract
- But MOD could not afford it!
- Reasons – Air Command cash availability rules and capitation rates. In effect only a proportion of the saving was passed on to the IPT, thereby making it unaffordable.
- STP07 required a 7.5 million saving as it was expected that NISC 3 would deliver this, but it was never going to!
- NISC 3 was meant to be cash neutral, but availability was guaranteed and there was very little risk

STC Core Manpower Requirement was too inflexible, limiting BAES ability to remove/contractorise Service manpower

The number of Aircraft that were required to be available under the contract is stipulated in the Defence Planning Assumptions; however there are not actually enough crews to fly the number of aircraft that are apparently required!

A reduction in the number of Aircraft that were required under the availability contract may have made it affordable, but this option was ruled out due to the defence planning assumptions!

The central planners are divorced from the front line reality and actual requirements. Flexibility from the centre is a major problem.

NSTC – Nimrod Support Transition Contract – this is trying to take forward aspects of NISC3, but the mission system is not included. Affordability is however still a problem.

There is pressure to contract with BAES as they are the design authority for spares hence were the contractor of choice for NISC.

The aspiration was to have it all under one contract – the opposite to Easyjet!

The drive is towards outsourcing!

Performance Metrics

2 main measures of performance

- Aircraft Availability is measured daily – 13 out of 16
- PDS task completion

Profit Margins for the contractor - minimum based on just turning up. This would increase by up to 7% for performance.

For NISC 3 the profit margins were lower

Appendix 7 – MSb (Nimrod – Mission Systems) Interview

Interview with Sqn Ldr Steve Priestly and R1 Mission Systems Team (MSb) in the Nimrod IPT - & Jul 07.

The MSb team are responsible for a number of contracts for individual systems. Considered in this interview are: FD Spinners (a rotating aerial system), a wideband digital recorder system, a narrowband recorder system, procurement of a communications upgrade and procurement of JTIDS.

Overview of current support contracts - airframe, engine, component etc

DF Spinners – Selex (Formally BAE Systems Edinburgh)

- In transition to a Performance Based Logistics (PBL) contract
 - Similar to CLS (between spares inclusive and availability)
- Lack of data has made PI's difficult to quantify and monitor
 - Handover of MOD Bay facilities to Raytheon has further complicated the issue.
- Integrated IT systems are required
- Knowledge dependency on one individual who is currently ill is a major problem
- The working relationship with Selex is good, but benefits realisation is poor
 - Working practices evolved 30 years ago are not easily adapted to modern contracting.

Wideband Recorder System – Enertec

- Now under a Total Care Contract
 - Began on 1st Apr 2007
 - 20 day turn around on all spares - door to door
 - Reasonable working relationship
 - Insufficient spares
 - Would prefer to go for an availability contract

Narrowband Recorder System – Audiosoft

- Degree of novelty in that contractor embedded in the MOD organisation
- Good working relationship – ex serviceman selected on likely ability to build good relationships.
- Previous technical problems have been resolved.
- Spares inclusive but moving towards CLS

Communications Upgrade – Secure Comms for Aircraft (SCA)

- Complete procurement programme (URD, SRD, Contractor selection etc) to introduce new equipment
- Winning Bidder was Mass Consulting
- Availability based contract – certain % of sorties satisfied
- Will deliver
 - New secure satcom.
 - New comms control facility at 5 workstations
 - New crew intercomm system

JTIDS

- An in house project that should have been outsourced
- Funding and internal organisation is a major problem
 - No single focal point
- Application is far more complex than anticipated
- But! The elements delivered are far superior to the standard industry offerings
 - Bespoke tailoring with significant operator input.

Overall the IPT is trying to decrease the No of contracts.

Incentives in the contract were deemed to be a problem due to the small number of platforms. Improving availability was not a great incentive as there were so few numbers involved with the contract.

(My thoughts are that they have the wrong type of incentives in the contract and that it should be tailored to each contract to provide incentives for better performance)

Appendix 8 – AV& Air EW IPT (Commodity) Interview

IPTL Interview: Capt Steve Wiles RN Av & Air EW IPT – 6 Jul 07

IPTL had received questions beforehand and interview was based on those questions.

Overview and Background

The Av&Air EW IPT is a commodity IPT supports a wide variety of air platforms as shown in attached presentation.

A commodity is:

- a. Any equipment associated with an aircraft and used on more than one platform.
- b. Any piece of equipment managed as a commodity by an IPT which is part of a weapons system capability. (eg Electronic Warfare systems)
- c. Any piece of equipment associated either directly or indirectly with the servicing of an aircraft. (e.g. Test Equipment, Ground Support Equipment etc)
- d. Any piece of equipment currently managed as a commodity, applicable to a single AC type, but managed under a multi-platform contract.

Also noted that despite the prevalence of a number of Integrated Operational Support (IOS) models being pursued by platform IPTs, the Av & Air EW IPT still retains responsibility for a considerable number of components (commodities).

- Eg: SKIOS. Of 54,000 components only 17,000 are included in the IOS. The other 37,000 are, in effect supplied as GFX (a Government Furnished Service) with many of those items being supplied by the various commodity IPTs.

The IPT is divided into a number of business groups (see .ppt) that address business in the following categories:

- | | |
|----------------|----------------------------|
| • Fit to Fight | High value/low volume |
| • Fit to Fly | Medium value/medium volume |
| • Consumables | Low value/high volume |

Within the IPT a variety of contracts operate as per the .ppt breakdown

With such a wide spread of suppliers and a large number of customers/stakeholders there were a variety of relationships. Some factors to emerge from an MOD inter-organisational perspective were:

- Platform IPTs agree Customer Supplier Agreements (CSAs) with the front line commands (FLC) while the Av & Air EW IPT agrees Internal Business Agreements (IBAs) with the Platform IPTs. For some equipment there is a CSA between the Av & Air EW IPT and the FLC.
- There was not always coherence between CSAs and IBAs - eg FLC required x of a particular equipment but the IBA was agreed at x-y equipments.
 - Platform was always judged red against CSA whilst commodity IPT judged green against IBA.

Other factors:

- There is a view that Total Support Solutions (TSS), comprising Thales, GE Aerospace (formerly Smiths), Selex and more recently DARA, consider their alliance of sufficient mass (ie similar to RR) to be considered as an avionics prime.
- Current initiative is the Commodity Availability Procurement Strategy (CAPS), although contracting for availability is probably a more accurate description.
 - See .ppt for overall plan, starting with HV/LV items.
 - CAPs relatively easy when similar equipment, from different platforms goes to the same prime.
 - Eg: Zeus/RHWR (Selex) fitted to Tor/Harrier primed by BAE Systems.
 - Much more difficult when Av IPT – Selex – CSA AgustWestland – platform. In effect get additional “non value added” layer. Furthermore, situation made more difficult if forced to deal through the layers of bureaucracy rather than specialist to specialist. (To counter: there may be gain if the prime has complete oversight and management of the supply chain)
 - Speculated that there is a risk of industrial “cherry picking”.
 - Discussed that at the LV commodity end of scale there are many suitable commercial supply models – including Wal-Mart.
- Considered pressures on IPTLs

-
- Budget pressure – need to protect against arbitrary cuts from centre with a view that committed money is safe.
 - Although often, if flying rates are reduced, budget allocation is reduced, even though there is a fixed price contract supporting a previously agreed flying rate.
 - *Appears to be a lack of joined up thinking or poor CSAs between FLC and IPT.*
 - Briefly discussed Tornado ATTAC.¹ Speculated that aggressive pursuit of availability contract may have locked Tornado IPT into inflexibility (*Air Cdre Bollom's view would be interesting – how does this square with “agility” doctrine*)

 - Considered pressure on industry.
 - Inter and intra company politics
 - P&L focus. Once P&L responsibility established greater good is irrelevant (ie collaboration is just not on the radar) – especially if it negatively impacts an individuals P&L responsibility.
 - Nature of savings:
 - Leverage over subcontractor – bully!
 - Industry DA uses design knowledge to avoid future expense (HIOS some success?)
 - Collaboration – rationalisation of resources/facilities (HIOS wheels and tyres)

 - Considered Partnership Culture
 - Can't change culture – what you do is change behaviour. Achieve by changing the performance measuring system. (arguably being achieved by HIOS, see 130 IPTL interview)
 - Long shadow of leadership
 - Behaviour must match words
 - (*Backed up emphatically by Adm Rees Ward²*)

 - Considered effects of workforce layers
 - Military: 13 tiers from brigadier to soldier
 - Great for command and control (C2)

¹

http://www.baesystems.com/WorldwideLocations/UnitedKingdom/UKDefenceIndustrialStrategy/CaseStudies/autoGen_10721411422.html

² Lecture to MBA Def 9th Jul 07

- Bad for getting timely accurate information up and down the organisation(worse going back up)
- Industry: general thrust is towards a de-layered matrix organisation
 - IPTL detailed his experience of Fleetlands
 - De-layered from 8 to 5
 - Achieved reduction from 1500 to 1200 people
 - Shop floor expertise allowed to impact process
 - Lynx gearbox overhaul 2yrs – 2 weeks
- Considered that MOD may be half a change cycle behind industry. As Easyjet is drawing, what it considers to be core capabilities in-house, MOD is pushing the management of high value, operational capability type business towards industry.
- Meaning of Capability?
 - It is not all about equipment. Cannot ignore tactics/doctrine/training
 - Example of RHWR further emphasised the need to retain flexibility in contracting.
 - A new tactic or technology may render an existing equipment/technology redundant. The counter may, or may not, be equipment/technology based

Appendix 9 – Sentry E3 IPT Interview

IPTL Interview: Mr Sandy McGregor/Wg Cdr Richard James - Sentry IPT – 6 Jul 07

IPTL had received questions beforehand and interview was based on those questions.

Contract Overview and Background

Sentry IPT responsible for seven E3D aircraft based on Boeing 707, traditionally maintained by Boeing and Marshall Aerospace (MA). Previous IPTL believed better service and value could be obtained from a 20 year Whole Life Support (WLS) availability contract. The competitive process was won by Northrop Grumman, (NG) whose credibility was based on their support for the American JStars (707 based) platform.

Availability is based on single track maintenance with only one aircraft undergoing scheduled maintenance. The remaining six should be available to Forward Support Wing (FSW) with a target Fit for Purpose (FFP) rate of 4 ac (ie 66%).

Despite the time compression caused by a longer than expected contract negotiation process, the 1st aircraft was returned to Forward Support Wing (FSW) on time³, in marked contrast to the previous regime. The IPTL believed NG has a strong return to service (stick to the deadlines) culture. Scheduled maintenance continues to run successfully and NG is now looking to improve service and cut costs by looking at how the MOD carries out maintenance. Main focus based around perception that MOD over maintains. An E3 flies only 500 hours per year and has more maintenance carried out in a year than a civil aircraft flying 20,000 hours. IPT and NG will need to work together to assess airworthiness and technical risks as maintenance regime is overhauled.

NG is a “shell” prime. Most of the work is carried out by

³ Disregarding unexpected 2/3 day delay due to non attributable repair

BAE Systems - Training and Tech Pubs

FRA - Scheduled maintenance and some of the maintenance workshops.

AAR - Logistics + remainder of workshops.

Contract is partnering (not partnership) with revision points after five years. One benefit of the long term contract was the provision of a new facility, attached to the hangar, to accommodate the contractor's, IPT's and unit's workforce.

A number of features of the new contract were highlighted.

- Bow-wave effect of a new availability type contracts. Initially pre-contract work tails off. This still needs to be done, so early in the contract there is a rush of work. Initially this causes the contractor concerned that there may be complete erosion of profit. However, once steady state is achieved workload returns to that predicted. (*Speculate that trust important*)
- In addition to the scheduled maintenance NG as the Design Authority (DA) (previously Boeing), is responsible for Post Design Services (PDS) and carrying out ac modifications.
 - NGIT are very risk averse, while the Brits are viewed as a bit fuzzy/imprecise. Not a good combination to get things done quickly.
 - Big culture shock on use of terms (language), forms and documentation.
 - Departure from ac OEM has caused difficulty, especially in carrying out electrical/avionic/mission system modifications.
- Some things have settled in well:
 - Publications are good – much better than previously
 - Training is good, managed by BAES using ex RAF technical instructors
- General view is that after two years the contract is in good shape
 - NGTS has taken over running of contract from NGIT
 - Considered by NG as more suitable
 - But people who negotiated the contract are now out of the loop
 - So understanding of contract reduced.

Contract is in the five year (firm price) settling in period with NG undertaking risk in good faith

- Trust and honesty essential (although contract continued to be referred to on a regular basis)
 - Clear the air meetings
 - Partnering day – success – Partnering like a marriage.
 - Partnering principles document subsequently produced

- Direct access to subcontractors is good (as all occupy same building)
 - In contrast to Australian Wedgetail – access only through prime: causes difficulty.
- Quarterly quality review meetings are carried out with an annual formal review with customer (strike command (STC and the Unit)
- Joint nature (USAF, NATO, FAF) of ac is a complicating factor
- Relationship between IPT/Contractor and the Unit still has scope for improvement
 - Unit (RAF Waddington) impacted by Transformation Stocktake which assessed progress in the Unit achieving the Forward/Depth split.
 - MOD IT systems do not match MOD IT; cause of frustration
 - Unit staff carry on working as before (cannibalisation, poor fault diagnosis)
 - Important because half of contract value is tied up in spares
 - NG personnel (2xFSRs) attempting to exert influence at working level.

Contract Progression

During the discussion on potential to progress towards contracting for capability the difficulty with funding was highlighted. Contractor and IPT could generate overall savings, especially by civilianising some functions. However, STC were not prepared to pass cost of savings back to the contractor or IPT. Furthermore there was nervousness about losing “Service” expertise.

Also considered in general terms that risk costs. If you ask a contractor to take risk the contract price will be loaded accordingly.

In reviewing capability contracts IPTL considered that the equipment programme was “peaky”. There was a need to spread the financial load. One of the benefits of WLS was that the spending was steady.

When considering the strategy for contracting for capability at RAF Waddington the key companies were highlighted.

- | | | |
|----------------------|---|--------------------------|
| ○ E3 | - | NG + BAES, FRA and AAR |
| ○ EAGLE (E3 Upgrade) | - | Boeing |
| ○ ASTOR | - | Raytheon +L3 |
| ○ ASTOR | - | Retrofit Raytheon/NG |
| ○ Nimrod R1 | - | Mission Systems Raytheon |

- Nimrod R1 - Helix upgrade L3 (Preferred Bidder)
- Nimrod - NISC BAES/FRA

An interesting mix. With some well considered competitive partnerships there must be considerable scope to reduce costs.

There has been a policy shift towards “contracting in” at five years instead of “contracting out” This was considered a disincentive because there would be no gain in long term investment such as funding an integrated engineering facility or work towards any initiatives that might generate profit in the longer term. On Sentry the standard profit margin is 8% with a gain share arrangement as follows:

- 50% Contractor
- 30% MOD
- 20% Self funded improvement

Information presented during interview:

1. Various Slides
 - a. Position on Transformation Staircase (between availability and capability)
 - b. Composition of Joint Sentry support Team
 - c. Key features of successful relationships (CRAFT – PSL)
 - d. IPT Roles
2. AAR presentation Public Private Partnering in Action
3. Extract from Supplier & Customer Performance Assessment
4. Partnering Principle Document
5. Sentry Partnering Day Assessment
 - a. Plus consolidated responses
 - b. Picture
6. Incentive Agreement.

Appendix 10 – C130 Hercules IPT Interview

Interview with Gp Capt Mark Hobbs C130 IPTL. 1630 – 1800 Friday 6th July 2007.

The IPTL had received questions beforehand and considered that a couple of presentations he had prepared would answer most of them. We also took opportunity to briefly discuss merger of DPA and DLO. Interestingly, DPA perception was that they had to adopt DLO working practices while DLO considered it the other way round. (Specific example would be good).

Overview of Contract/Background Information

- Background: There are two major marks of C130(Hercules) aircraft (ac). The ageing C130K ac, due to be out of service by 2012 and the more recently acquired C130J which will be operated until at least 2030.
- HIOS about £1.5bn over 24 years (Lockheed press release different⁴) fairly equally split between Lockheed Martin, RR and MA. Pricing reviewed at 5 yr point. Initial projected saving is in the order of £170m.
 - Contract excludes:
 - Capability insertions
 - Damage
 - Change to PEPs
 -

Why a partnered approach?

- It is generally agreed that in current financial climate the traditional way of doing business is unaffordable.
- Furthermore the adversarial approach adopted over the last 40 years has not worked and that a more collaborative outlook is needed. Cynic's view:
 - Industry need to do something because they are losing business.
 - Partnering provides an opportunity to “get inside” the MOD – fleece them later.

⁴<http://www.lockheedmartin.com/wms/findPage.do?dsp=fec&ci=17711&rsbci=1&fti=129&ti=0&sc=400>

-
- However need to generate perception that we are in this together.
 - EG: need to change perception from “b*****s to mates” training and staff selection an important element. Recruitment of new personnel includes an attitude to industry assessment so that the C130 IPT can continue to build effective contractor/MOD relationships
 - Also noted need for MOD to get away from over specified ITTs
 - Eg there should be 4” clearance between the wings and the hangar doors.
 - And the need for industry to get away from the build and forget philosophy to Whole Life Support (WLS)

 - HIOS is a move towards “availability” contracting although in the case of HIOS the term “serviceability contracting” is considered more appropriate.
 - The prime Performance Indicator (PI) is that either 75% or 80% of the available fleet is serviceable and ready to fly:
 - 25 in fleet
 - –
 - – ie 21 available so 17 need to be serviceable
or fit for purpose (FFP)
 - –
 - 2 – Upgrade
 - 2 – Maintenance
 - If 4 more ac were allocated to, say, an urgent capability upgrade programme; then 17 available so 13 would need to be serviceable.
 - The Other PIs are related to:
 - Availability of Synthetic Training Environment (STE)
 - Reduced call on Military Cannibalisation Activity
 - Sustainment/Replenishment of PEPs
 - Note that the first KPI (FFP) is firmly linked to the 3rd and 4th KPIs. Thus we will not accept that FFP is met if it is at the expense of Cannibalisation at Fwd or by robbing out the PEPs in store at LYN.
 - Other considerations:
 - Scheduled Maintenance (SM)Performance
 - Time in and out of SM
 - Tech Support - responsiveness to tasks (*are there additional costs?*)
 - Supply chain performance – timely delivery of spares to ensure 75%/80% availability (also noted that MOD own the spares, except for any additional ones that MA purchase ensure required levels of service delivery) Note that we do not track Off the self satisfaction rate etc any longer, this is all rolled up into FFP ac. The lower level Pis are monitored by the contractor not the MOD.
 -

 - Examples:
-

- Wheel and tyre bay previously had utilisation rate of approx 60%. Service was outsourced to Kearsley⁵ a company that specialises in aircraft component maintenance. Utilisation of their facility is 90% with associated reduction in cost. Downside is the need to schedule as previous “instant repair” facility is not available.
- Partnering has been particularly effective on Tech Services. Service Modifications can be carried out much more quickly because the inter organisation bureaucracy has been eliminated. One particular fit was carried out in 4 days and generally productivity has increased from one SM per month to 2/3 per week.

- PPT slides show progressive transfer of activity from the RAF to MA including the running of the workshops that were previously operated under a multi activity contract. There is also consideration of transfer of C130K primary/primary* work to MA. Particularly significant though was the carefully considered decision for the RAF to retain C130J primary/primary* work to ensure the retention of an RAF skill base on the new aircraft.

- With the transfer to HIOS the IPT has been able to reduce in size from 150 to 120 with plans in place to have a total of 96 all collocated with MA in Cambridge by Apr 09.

- Also there has been considerable rationalisation of contracts, eg there were previously 70 Contracts and 40+ contractors providing support to the 2 ac fleets this has been significantly reduced HIOS subsuming many of the old contracts. Another example is that the single contract with Kearsley replaced 5 predecessor contracts.

- With combined logistics with all components, managed by just one department, there is incentive to rationalise the supply chain. In fact with the drawdown from 66 to 20 C130K, there is no need to repair many of the U/S components. Furthermore, there are other fleet operators willing to buy these components (Dutch Air Force)

- PPT shows simplified logistics support construct.

Monitoring/management of contract.

- Use data to drive activity. Serviceability data published 3 times a week and reviewed at working level. 75%/80% metric clearly understood and team

⁵ <http://www.kalair.co.uk/news.htm>

empowered to investigate and resolve issues. Made easy as everybody works together in new single facility. (affordable due to long term nature of contract)

- Promotes new attitude: “How are **we** going to solve
- ” rather than, “what went wrong, who’s to blame”

- Additionally management level meetings held weekly and board level (IPTL and equiv) every 6 weeks. All supported by data.

- Success achieved by employing “A” team. As a result “S” level has risen from historic 45% to 75/80%. (Downside of using A team: with benefit of hindsight can now see that FI management of fleet may have been better and also may have been able to avoid early retirement of 4 ac. However, (my view?) hindsight is easy and HIOS still generates more ac)

IPTL also, considered that the relationship with MA was particularly effective. Of the various prime contractor’s IPTL had experience of (BAE Systems, Boeing, Northrop Grumman and MA) MA had so far proved to be the best. Although the contracts branch referred to the contract, at senior level the emphasis was on how to resolve problems and there was no need to refer to the contract. (in contrast to Sentry)

Appendix 11 – Raytheon Interview

L3/Integrated Systems – Barry Smith Director ISR Programmes London Office Interview

6th August 2007

Present – Gary Smith, Jane Lewis, Alan Sadler – Cranfield

Barry Smith – L3

Overview of the contract:

- Project HELIX(Not reached main gate yet)
- New Mission System for Nimrod R (replacement not an upgrade)
- L3 Integrated Systems are Prime Contractor for the new system and the preferred bidder in the final stage of the Assessment Phase
- PASE (Project assumed service entry) is 2013
- Life Span up until nominal out of service date: 2025
- Capability/sustainability Contract is the aim – ‘against a burgeoning and developing target set’

MOD has been offered 3 options at the end of the previous Assessment Phase and must now choose which provides the optimised solution given the operational and cost constraints they are responsible for. Project HELIX comprises a large suite of onboard systems (hardware & software as well as changes to platform infrastructure) and associated ground based equipment.

BAES is the platform provider and the platform design authority; therefore, L3/IS must work closely with them to get the required capability/availability. In order to guarantee a weapon system capability offering this must be underpinned by platform availability. BAES must be informed of any changes to the aircraft, hence the requirement for a good close working relationship with them.

Performance Metrics: Proposed metrics that have yet to be agreed are:

- 95% mission system availability
- 2.1 weapon systems available from 3 for weapon system availability
- Both these metrics to be met given a forecast number of operating hours and are allowed to vary within pre-agreed monthly levels.

In addition, equipment will be provided to a certain technical specification, guaranteeing a level of capability in terms of equipment performance.

Current Situation

- Whole life cost is too expensive
 - Platform cost have doubled
- Unknown unknowns have happened – XV230 crash in Afghanistan with ageing ac issues outstanding
- Political dimension
 - Awaiting outcome of board inquiry

US Technology

Aim is to maximise software re-use (<90%) from the US equivalent programme, although the mission system is different for the UK version. L3/IS want to leverage technology developed in the US providing, where possible, COTS (commercial off the shelf) technology to the UK user.

Due to time constraints, L3/IS have already commenced R&D of the enabling technologies within the system. At the moment, there is no customer involvement in this process.

L3 will provide:

- Hardware
- Software
- Training
- Logistics support
- Integration and Acceptance

Manpower is provided by the military to man the mission system but L3/IS provides the training materiel/infrastructure and some manpower for the training and logistic support.

Capability Progression

More detail was requested regarding how ‘capability’ would be developed especially given the unpredictability of the threat.

Within the contract a technology ‘roadmap’ (ITAP – Integrated Technology Assessment Plan) has been created which allows for an agreed baseline of technology development to be provided as part of the initial contract. In addition, charging mechanisms have been created in the case that sudden, unpredicted capability development/change is required.

Relationships

A question was raised about what makes MOD-Industry partnerships successful:

- Strong agreement that contractual partnerships are becoming increasingly important.
- Those that are working well are often due to ex- military personnel working for contractors in influential positions in the partnership with MOD.
- Knowing the environment and military mentality leads to having a good standing in the community thus facilitating a good partnership. This can take far longer for a non-military person although it is not impossible.
- Culture and values were seen as very important aspects in the selection of a good partner.
- Identification of key personnel is a major problem that management must address. It is already proving difficult to find suitable staff to fill positions within the dual partnership of industry and Authority.
- There is a difference between long term relationships and a marriage – when a contract is in place more effort is likely to be made to rectify problems.

Trends in Support

Increased mirroring of main US programmes

Contracting for capability

Greater collaboration & partnership between onsite contractors to share resources – i.e. logistics facilities and processes, training facilities, etc
Finance is often a key factor – and price is still the bottom line when contracting with the MOD

Barry is employed to advise the company; hence, the contract is aiming to be a capability contract rather than simple availability. In contrast to the UK programme, the US contract involves continuous competition for different activities – discussion re-special acquisition programmes followed.

Appendix 12 – ASTOR Interview

Raytheon – David Young – 6th August 2007

Overview of the contract:

- ASTOR (Airborne Stand-off Radar) System – both Air and Ground System
- CLS contract
- Currently 1 aircraft, but may increase to 5 by Nov 07. 8 ground systems.
- 4 areas
 - ESS (Engineering Support Services) includes scheduled maintenance, first line air and ground maintenance. 200 man weeks for rectification allowed within the contract.
 - DSS (Design Support Services) 6000hrs defect investigation & tech support.
 - TSS (Training Support Services) involves training operators to OCU level for the next 10 years.
 - SSS (Supply Support Services) includes Stores and sub-contract management. Spares availability is measured not system availability.

- Contract was written pre- smart acquisition
- 10 yr 3 month contract
- Contract is considered unlikely to give 5 Sqn the support they require
 - Only covers activity 0800-1700
 - Off base support away from Waddington is not included
 - Very poorly written contract
- Any ‘out of scope’ requests from the RAF require an ‘engineering change request’ to be made which necessitates additional payments, even if the change is in the interest of both parties.

Performance Metrics

- Monitored on 24 different categories, both objective and subjective every quarter.
- Measurements are based on a points system depending on performance achieved within a certain timescale.
- Incentivisation is very poor and does not encourage a good working relationship. As an example 2 measurements that do not encourage the correct behaviours are:
 - Fill/performance rate for material requisitions – currently set at 95% within a set timeframe. Does not take into account criticality of requirement (will the material prevent operation / can it be robbed)
 - Engineering tasks are measured using actual completion date against target date. The system means that there is no incentive to clear long overdue tasks so instead focus is placed on clearing other tasks before target date to gain points.

Relationships

- The tone of the relationship is set by the contract and the quarterly reports – this encourages many unfavourable behaviours.
- A team away day was planned to encourage a better working relationship, however this was cancelled!
- Customer is constantly trying to take advantage of the supplier.
- Interpretation of the contract is also causing problems.
- The relationship appears to be ‘broken’ – third party intervention using the SCRIA code of practice may be required.

Personal Opinion/Future developments

- Alliancing should be explored as an option – large cost savings could be realised if all contractors on the RAF Waddington base work together.
- The culture and behaviour within the IPTs need to change if a good working relationship is going to be achieved.
- The mentality of thinking all contractors are just money grabbing and not willing to work with them must be quashed for partnerships to progress and work well.
- IPTs often use time as a constraint to making an effort to resolve the conflicts – this is not acceptable.
- A change request has been made to fund a study into transitioning the contract to a Contract for Availability framework; it is considered that this is the only way to cure the problems currently being encountered.

Appendix 13 – Project Management Interviews – Extracts

Interviews relate to the Peterborough Schools PFI - raised issues relevant to this paper.

Interview with Nicolas Beusserol – Jack Hunt site Project Manager, Bouygues

- Site PM – Extremely busy with completion of new block due in 6 days. Agreed to 15 minute interview. Actual interview 1500 – 1520 Thursday 24 May 2007
- Major progress reports carried out at 20%, 50% points. The 50% report issued on 3 April 2007 was briefly explained. It appeared to contain all major project areas including progress against schedule, costs, staff, contracts, and risk. RAG, embellished with smileys, was used against each heading. The risk register was comprehensive. The example examined, was the risk of additional cost of having to bury the holding tank for the sprinkler system. Initially it was assessed as a 100% risk that would incur a cost of £30k. However, by time the 50% report was issued the risk was 0% as an alternative location (one of the service areas) had been found.
- Change request form - school does not appreciate costs involved! Nevertheless there is a formal process for costing and approval so that plans are updated.

Interview with Brian Grew, Partner @ Bucknall Austin – PFI advisor to Peterborough City Council.

- Telephone interview with Brian Grew, PFI advisor 1405 – 1430 25th May 2007.
 - Brian has 10 years experience working with councils on major projects.
- General comment that often the public sector does not realise the magnitude of the task when project managing a PFI project, which in this example involved 3 schools. Brian Howard was appointed as PM with no experience of PM. (Background was in finance). Private sector would have appointed a full team. As a result, the PM was carrying out both the PM and the PSO roles simultaneously (a seriously busy man)
- Risk management was carried out, but relatively informally (ie no formal review of a risk register) with the key issues being managed at the various levels during the relevant meetings. Generally the issues concerned plans, affordability and derogation of the standard PFI contract. The willingness of Bouygues to negotiate was a key factor in reducing these risks.

Appendix 14 – Factors which Impact Partnering

As part of the early analysis carried out the various factors which impact partnering were extracted from the interviews detailed at Appendices 6 - 12. Here they are grouped by hard and soft factors. These were then distilled further into relationships, finance and budgets, risk, culture, people management and organisation, for the main body of the paper

Soft Issues	
Lack of Common Goal	<ul style="list-style-type: none"> • Business need to make money vs MOD need for military capability • MOD over specification/under funding
Benefits Sharing	<ul style="list-style-type: none"> • Poor PIs
Relationships	<ul style="list-style-type: none"> • Trust • Understanding • Communications
People Management	<ul style="list-style-type: none"> • Lack of good people <ul style="list-style-type: none"> ○ Organisational focus (Ops vs procurement & sustainment) ○ Posting policy ○ Personal development (attitudes, skills, competences) • Lack of incentive
Internal Organisation	<ul style="list-style-type: none"> • Capability requirement <ul style="list-style-type: none"> ○ Cross platform/cross Service ○ Allocation to Cluster's • Platform Primacy (autonomy) • Commodity Provision (autonomy)
Culture	<ul style="list-style-type: none"> • Centralisation • Military Ethos

	<ul style="list-style-type: none"> • Company Ethos • Compatibility, and behaviour modification • Language (What is contracting for capability) • DA or “Big Company” bully
Hard Issues	
Budgets and Finance	<ul style="list-style-type: none"> • Industry P&L focus • Financial acumen • Lack of accountability in MOD • (Only one EAC away from P45)
Contracting Policy	<ul style="list-style-type: none"> • Different across the MOD • Need for incentives • Timescale (too long vs too short) • Flexibility
Complexity	<ul style="list-style-type: none"> • Project management capability • Sufficient knowledge
Risk	<ul style="list-style-type: none"> • Financial Risk • Airworthiness Risk • Operational Risk
Hard/Soft Issues	
Changing Requirement	<ul style="list-style-type: none"> • Operational need • Financial constraint • Changing Personnel
Bureaucracy	<ul style="list-style-type: none"> • Many MOD layers • Poor separation of governance and policy implementation

Politics	<ul style="list-style-type: none">• Departmental rivalry• Inter Service rivalry• IPT rivalry• Inter and intra company rivalry.• Stove-piped operations
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