A model of military supply outsourcing success: a client/vendor relationship perspective

Tien-Hua Wu*

Department of Aircraft Engineering, Air Force Institute of Technology

Abstract

In order to improve efficiency and effectiveness, military organization recently begins its supply outsourcing on some material items. However, as not so much literature emphasizes Taiwan’s military logistics and current military outsourcing studies place little attentions on client/vendor relationship, these highlight more research efforts on the military outsourcing, especially for the relationship-related issues in military outsourcing system. Drawing upon the literature in both commercial context and defense context, this research proposes a tentative conceptual model to answer the following questions: (1) what determines client/vendor relationship quality in a military supply outsourcing system; (2) why relationship quality can be a key predictor of military supply outsourcing success; and (3) how contingency and organizational variables can have the moderating effects on the relationship between relationship quality and military supply outsourcing success. Our tentative conceptual model has nine research constructs: relationship, structure, interdependence, compatibility, human factor, relationship quality, military supply outsourcing success, contingency variables, and organizational variables. To answer the research questions and get insights into the little known phenomenon, the case study research method is selected to accomplish the research goals. Based on case study findings,
we refine our tentative conceptual model in which there are eight research constructs and seven propositions, providing an advanced understanding of various relationships in military supply outsourcing system and a basis framework for the future research.

**Keywords**: military supply outsourcing success, client/vendor relationship, relationship quality, contingency variable, organizational variable
1. INTRODUCTION

Since the early 2000s, due to the limited defense budget and the growing need for organization reengineering, Ministry of National Defense, ROC (MoND) has started its supply outsourcing business on some minor and general resources or materials such as hand tool, administrative support, lighting, oil etc.. The main objectives of contract-out material supply are not only to improve efficiency and effectiveness capabilities of the military logistics, but also to accomplish the defense duty with maximizing value and minimizing cost. Material supply function in military is very important as it influences the quality of logistics decisions at either the strategic or tactical level, thus analysis of military outsourcing issues shows the values in managerial implications. But there is a limited awareness to be shown in military supply outsourcing field, especially in Taiwan now. Clearly, this calls for research efforts needed to be involved into this research area.

Compared to Taiwan, many other countries have begun their military outsourcing for years. For example, UK introduced a new competitive procurement policy in 1983 to contract-out support service (Hartley, 2002); in US, military outsourcing, which provides available goods and services to support operational functions, has been used for years and gained popularity in 1955 (Lock, 2006). As a result, much evidence has witnessed a great interest in issues of military outsourcing (Douglas, 2004; Hartley, 2004; Kelty, 2005; Leibstone, 2005, 2007; Lock, 2006). However, as we mentioned above, the issue of military outsourcing in Taiwan is a relatively new and unexplored research area, and most evidence focuses on the issues of weapon procurement, fighter jet maintenance, and military R&D (e.g. Jan, 2002; Pan et al., 2003). Therefore, it is becoming
apparent that the underlying insights of outsourcing issue on logistics system in Taiwan are far than understood.

Webb and Laborde (2005) argue that for the first time outsourcer, the success and longevity of an outsourcing arrangement depend greatly on the success of the client/vendor relationship. That is, when an outsourcer considers outsourcing for the very beginning, by maintaining the certain and successful relationships, he will ensure that their arrangement is carefully constructed and well-managed. For MoND in Taiwan, this is the first time to make the buy choice of material/component from civilian wholesale retailer, thus the success of an outsourcing arrangement is undoubtedly the major concern that may directly or indirectly influence military logistics capabilities. Thus, motivated by the above consideration, our research attention is focused on military supply outsourcing success from the client/vendor relationship perspective.

In a review of the relationship quality, there are numerous prior studies that aim at figuring out what factors contribute to the quality of buyer-seller relationship (Christopher and Jüttner, 2000; Gentry, 1996; Nesheim, 2001; Parson, 2002; Walton, 1996; Webb and Laborde, 2005). Yet they all focused on the business areas; there is no evidence to provide a base knowledge about the linkage between client/vendor relationship and the military outsourcing. We therefore start from reviewing related literature on commercial field to build a tentative conceptual model focused on what are the determinants of establishing a good relationship in military outsourcing system, which in turn contributes to military supply outsourcing success. We also examine the contingency and organizational factors as moderators. Because of limited evidence on military outsourcing, the
tentative model may be inappropriate. Thus, we use the case study method to collect information to refine our tentative model for future investigation.

Overall, our research intends to provide preliminary answers to the following research questions: (1) what determines client/vendor relationship quality in a military supply outsourcing system; (2) why relationship quality can be a key predictor of military supply outsourcing success; and (3) how contingency and organizational variables can have the moderating effects on the relationship between the two constructs: relationship quality and outsourcing success?

Followed by the introduction section, our research begins by reviewing the literature on military outsourcing, buyer-supplier relations, and supply chain partnership. Drawing upon the evidence, we build a tentative conceptual model that has eight propositions for observing the determinants and moderators in military supply outsourcing policy. Based on the case study method that produces greater detail and a specific understanding in the Section 3, we adjust the tentative conceptual model proposed at the second stage of literature review. In the final section, conclusion and suggestion are also provided.

2. LITERATURE REVIEW AND DEVELOPMENT OF TENTATIVE MODEL

2.1 Military outsourcing

According to Hartley (2004), military outsourcing has different various definitions; generally, contracting-out, contractorisation, privatization, competitive tendering, and market testing mean the same thing. In theory, the main benefit of
outsourcing, as it’s commonly known, is to allow the using firms to free up resources and concentrate on their core business (Webb and Laborde, 2005). Undoubtedly by contracting-out goods or service support, the armed forces can also accomplish the core military activities effectively and efficiently. Yet, while using outsourcing function, there are many obstacles and essential issues, which may discourage its use, needed to be considered and assessed, especially in military. The reason is that defense is a major user of scarce resources and efficiency of using scarce resources must be questioned by the public. As a result, efficiency is central to the decision between “the make in internal sites” or “buy choice from external markets” (Hartley, 2004). However, according to Hartley (2004), it is hard to assess government claims of efficiency improvements in defense that results in a current situation, thus contracting for military support functions in US has been the subject of increased debate (Lock, 2006).

In a review of prior studies on military outsourcing, there are following unresolved sub-topics: (1) contract management: the costs of negotiating, monitoring and enforcing contracts (Hartley, 2002); (2) gaining or losing control power on the policy (Hartley, 2002) and authority (Douglas, 2004); (3) human resource management such as military’s professional jurisdiction, lack of information of its contract workforce, higher cost of military outsourcing community, or retention intentions (Kelty2005, ;Leibstone, 2005, 2007; Lock, 2006); (4) security risk management (Neumann et al., 2004); (5) belief conflicts such as loyalty, trust, and reputation (Hartley, 2004). From the above literature, only limited evidence (i.e. Hartley, 2002; Lock, 2006) discusses outsourcing policy from a client/vendor relationship perspective. Hartley (2002) suggests that trust may lead to long-term partnerships between the buyer and contractor in military
outsourcing. In Lock (2006) study, its primary objectives are to view overall outsourcing strategy and examine relevant issues in current DOD’s outsourcing condition in US, providing few viewpoints about relationships or interactions between both parties. Even most evidence may not specifically focus on relationship quality-related issue; the prior studies still provide a basic understanding of controversial issues in military outsourcing context in other countries. Besides, some concepts such as the contract management, human resource management, and/or security risk management may play the key role in assessing the military supply outsourcing success from client/vendor relationship perspective. The reason is that these issues are widely discussed when addressing the buyer-seller relationship in business outsourcing policy.

Current papers on discussing outsourcing policy in Taiwan mostly focus on the subjects of weapon acquisition and development, maintenance of combat fighters, and military R&D (e.g. Jan, 2002; Pan et al., 2003). These studies discuss the issues above or evaluate the procurement policy from the political, diplomatic, and economical perspectives; however, they don’t provide any information about support function based on the relationship viewpoint. However, for MoND in Taiwan, this is the first time to make the buy choice of material/component from civilian wholesale retailer, thus the success of an outsourcing arrangement is undoubtedly the major concern that may directly or indirectly influence military logistics capabilities. As a result, our research will review the relevant literature focused on commercial subject in the following section and develop eight propositions in our tentative conceptual model as Figure 1. Based on this tentative model, it may provide a basic idea about the role of client/vendor relationship in military supply outsourcing success.
2.2 Determinants in client/vendor relationship

According to Gentry (1996), the following elements are typically found in successful supply chain partnership: long-term commitments, open communications and information sharing, joint problem solving and continuous improvement, and shared risks and rewards. In Walton (1996) study, the dimensions associated with partnership satisfaction are planning, sharing of benefits and burdens, asset specificity, interdependence, operational information exchange, and extendedness; except for asset specificity, the findings identify that

Figure 1 Tentative conceptual model and eight propositions
other five factors are beneficial to current partnership satisfaction. In review of literature on outsourcing of logistics functions, Razzaque and Sheng (1998) summarize that essential drivers of successful outsourcing in logistical services are top managers’ support and employee support, communication, mutual trust and faith, commitment, as well as various relationships between the people involved. Christopher and Jüttner (2000) argue that in order to manage supply chain relationships, there are six elements needed to take into account: defining a balanced set of relationships, developing the right interface structure, cooperating across systems, managing people through change, and monitoring the relationship. From the buyer’s perspective, Parsons (2002) identifies that interpersonal variables and aspects of the relationship variables are dramatically important for contributing the good relationship quality.

In defense, there is the limited amount of literature focused on this issue. Hartley (2002) points out that trust may lead to long-term partnerships between the buyer and contractor. Based on refining and guarding systems, processes, and procedures of outsourcing function, the armed forces in US will achieve the outsourcing goals (Lock, 2006). Drawing upon the literature above, we suggest that some of drivers may determine outsourcer/client relationship quality in a military material outsourcing system, which leads us to the following propositions. The operational definitions of the main determinants used in this study are summarized and presented in Table 1.

Proposition 1: Relationship variables are positively related to relationship quality contribution.

Proposition 2: Structure variables are positively related to relationship quality
Proposition 3: Interdependence variables are positively related to relationship quality contribution.

Proposition 4: Compatibility variables are positively related to relationship quality contribution.

Proposition 5: Human factor variables are positively related to relationship quality contribution.

2.3 Relationship quality

Gentry (1996) use the following definition of strategic partnership in his study, “a mutual, ongoing relationship involving a commitment over an extended time period, and a sharing of information and the risks and rewards of the relationship.” Focused on literature of outsourcing of logistics functions, successful partnerships generally follow the following five principles: (1) concentrate businesses with

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Operational definition</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship</td>
<td>Outsourcers’ and clients’ perception of the degree of basic norms such as commitment, trust, and faith</td>
<td>Gentry (1996); Hartley (); Parsons (2002); Razzaque and Sheng (1998); Walton (1996)</td>
</tr>
<tr>
<td>- Commitment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Trust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Faith</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A model of military supply outsourcing success: a client/vendor relationship perspective

<table>
<thead>
<tr>
<th>Structure</th>
<th>Outsourcers and clients may communicate, share information, track operational performance, and provide feedback at several levels of linkage between two parties</th>
<th>Christopher and Jüttner (2000); Gentry (1996); Lock (2006); Nesheim (2001); Parsons (2002); Razzaque and Sheng (1998); Walton (1996)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Interface structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Information system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interdependence</td>
<td>Outsourcers’ and clients’ perception of performance and managerial benefits form mutual goals, shared risks and rewards, mutual disclosure, and joint problem-solving efforts</td>
<td>Christopher and Jüttner (2000); Gentry (1996); Lock (2006); Parsons (2002); Razzaque and Sheng (1998); Walton (1996)</td>
</tr>
<tr>
<td>- Mutual beneficial goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Shared risks/rewards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Mutual disclosure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Joint problem-solving efforts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compatibility</td>
<td>Systems are designed for outsourcers and clients to exchange goods, service and information timely and accurately, and continuous improvement efforts are expected through cooperation between two parties.</td>
<td>Christopher and Jüttner (2000); Gentry (1996); Parsons (2002); Razzaque and Sheng (1998);</td>
</tr>
<tr>
<td>- Cross function/system management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Continuous improvement efforts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human factor</td>
<td>The degree of outsourcers’ and clients’ perception of understanding and support for outsourcing relationship</td>
<td>Christopher and Jüttner (2000); Razzaque and Sheng (1998);</td>
</tr>
<tr>
<td>- Top managers’ support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Employees’ support</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

relatively few partners, (2) carry out joint improvement efforts with partners, (3)
institute a formal system for measuring partners’ performance, (4) employ a
two-way feedback system, and (5) let partner performance determine routing
choices and rate level (Razzaque and Sheng, 1998). In Parsons (2002), relationship
quality has two dimensions: trust and satisfaction. Trust is often recognized as a
critical element to increase cooperation, and satisfaction refers to the degree to
which interactions between two parties meet their mutual goals. In a review of
outsourcer/client relationship, Webb and Laborde (2005) find out that there are
many effects resulted from the best outsourcing relationships such as (1) specific
and measurable goals and objectives; (2) ensure the relationship is beneficial to
both parties; (3) maintain mutual willingness to learn from one another; (4) involve
senior managers and seek their support etc..

Based on the previous studies above, we find out that the elements in a good
relationship quality or successful partnership may be similar to the sources that
lead to the best outsourcing relationships. In addition to the similarity, we also find
out that the definition of relationship quality depends on the nature of the
organizations involved, the individuals in the organizations, and the mature of the
situation (Parsons, 2002). That is, military organization should define and evaluate
the term “relationship quality” based on the organizational uniqueness and
defense-oriented mission.

The major concerns in defense may not be the same as the aspects from the
commercial relationship quality perspective. According to Lock (2006),
outsourcing success is likely if there is a sufficient monitoring and management
systems between clients and contractors. Hence, our research considers two
dimensions, contract management and partnership, as in prior researches on
relationship quality. Contract management refers to the managing the processes, procedures, and systems that are used for negotiating, monitoring, and enforcing contracts. Some features not included into the contract management dimension are instead included into partnership dimension. Partnership dimension involves mutual understanding, mutual disclosure, and cooperation that ensure the relationship is ongoing and beneficial to both parties.

2.4 Outsourcing success

In defense, expected objectives of contract-out some operational function, capital supports (e.g. equipment), and labour supports (Hartley, 2004) are to allow the armed forces to focus on the core competences, to save money, and to improve efficiency (Hartley, 2004; Lock, 2006). Hartley (2004) even believes that efficiency is central to the make or buy choice; in other words, efficiency improvements should be considered regarding to evaluating outsourcing policy. In the case of the acquisition policies on weapon system software, the primary focus of outsourcing is to acquire weapon system to improve combat capability in a timely and cost-effective manner (Neumann, 2004). As a result, the criteria for assessing the perception of the military supply outsourcing success in our study include time, money, and efficiency.

2.5 Literature foundation for associated between relationship quality and outsourcing success

Webb and Laborde (2005) argue that for the first time outsourcer, the success and longevity of an outsourcing arrangement depend greatly on the success of the client/vendor relationship. When a client considers contracting-out some functions, he must have many concerns (e.g. contractors may be inadequate in its capabilities
to meet clients’ requirements). If there is a lack in knowledge about contractor/client information and the balance set of mutual relationships, it is contributing to the disconnection between anticipated and observed outcomes. Without a doubt, dissatisfaction, misunderstanding, and trust failure may occur and therefore result in inefficiency and failure in military supply outsourcing policy. Also, Hartley (2002) points out that some features such as trust and partnership are relevant to analysis existing experience with its new outsourcing policies. That is, when analyzing military outsourcing issue from social-psychological perspective, effects of such programs for the military may be further understood in terms of the depth and breadth of relationships. Thus, we suggest the following proposition,

*Proposition 6: Relationship quality is positively related to military supply outsourcing success.*

2.6 Moderators of contingency variables and organizational variables

Bensaou and Anderson (1999) identify that environmental uncertainty and institutional context are significantly related to the buyer’s specific investments in industrial market that is embedded in a broader business relationship. Furthermore, Claycomb and Frankwick (2004) argue that contingency variables refer to environment conditions and individual characteristics of organizational members, which influence the interactions between two research constructs in their study: buyer search effort and relationship communication elements. In military context, Lock (2006) argue that U.S. lack reliable contingency plans to compensate for uncertainty and security risks driven by private contractors; it result in more difficulty in operating high-tech weapon systems and in exposing U.S, soldiers to additional risks. Drawing up the evidence, contingency variables, however,
influence the interactions between the relationship quality and outsourcing success,

**Proposition 7:** There is an interaction effect of the contingency variables on the relationship between relationship quality and military supply outsourcing success.

Except for considering the contingency variables as moderators, we also believe that organizational factors will play the key role in the interaction between relationship quality and supply outsourcing success. In review of logistics function outsourcing, Razzaque and Sheng (1998) provide that cultures and organizational structure are important for establishing good relationship. Also, the organizational fit, culture, and full support of the affected employees are recognized as critical concerns over building buyer-seller relationship and adapting the rigorous process between the two parties (Webb and Laborde, 2005). In the defense context, there are some resistance and opposition from top leaders who criticize performance of military outsourcing in terms of security risks, contractors’ capabilities, or reliable services. Therefore, we consider that organizational variables may moderate the relationship between relationship quality and material supply outsourcing success,

**Proposition 8:** There is an interaction effect of the organizational variables on the relationship between relationship quality and military supply outsourcing success.
3. CASE STUDY FINDINGS

As mentioned before, there is not so much evidence specifically focused on relationship quality-related issues in defense context; consequently, the question comes to whether our tentative theoretical model presented as Figure 1 is appropriate for examining the various relationships in military outsourcing system. Due to the newness of the topic and to obtain insights into our research questions, we choose the case study research method that allows to answer the “how” and “why” research questions (Yin, 2003), to form the theory to emerge form the data (Eisenhardt, 1989), and to provide depth and insight into a little known phenomenon (Ellram, 1996). Based on the case study findings, we refine the conceptual model proposed as Figure 1 and present the refined model as Figure 2.

![Diagram](Figure 2 Refined conceptual model and seven propositions)
3.1 Research method

The case study organizations are the key and professional logistics departments in the Air Force that present higher level of cooperation for assisting our research procedures. Information gathering techniques include obtaining historical data and documentation, conducting in-person interviews with senior managers and numerous professional military logistics personnel, and telephone interviews with various key informants. Except for the three senior leaders, other case study participants were pre-screened by the managers in case study site; in other words, all respondents have adequate experiences and professional knowledge to provide reliable and useful information. We develop the interview questions based on the information of literature review and our tentative theoretical model; these questions are six open questions and five semi-structure questions.

Next, we present the interview information based on the manager and employee perspectives, providing us different angles to examine the structure of our tentative model and the appropriateness of the research constructs and variables. However, the interview data is very wordy but actually reveals many insight details, mostly having the similar concepts as the information of existing literature while using the different words of constructs. Comparing the tentative model and the interview information, we refine the theoretical model as Figure 2 presents.

3.2 Research findings from manager perspective

According to senior leaders in logistics department, the term “trust” is significantly related to the relationship and cooperation. Trust in the outsourcer/client relationship will influence directly and indirectly the following
arrangements: quantity of material demand, pricing, security risk, and willingness to communicate with each other. Since this material supply outsourcing policy hasn’t been in action for years, managers do not provide any description of damages or risky event caused by the trust construct. A key reason provided by an informant is that currently the contracted-out materials/components are some minor and general resources, which may not result in serious damages of delays or disruptions even if there is a trust risk within the client/vendor relationship. However, the senior respondents conclude that building a mutual-understanding, mutual-disclosure and long-term relationship is definitely beneficial to outsourcing success and is expected to accomplish the anticipated organizational goals.

Senior managers suggest that the quality of contract management is very important for establishing successful military outsourcing businesses. In other words, nowadays for top managers in MoND, the most difficult task is how to negotiate, monitor, and enforce contracts because the armed forces are still in the position of learning and adapting to contracting-out military functions. As the organizational type of the armed forces is hierarchy, such a condition is always not able for top military leaders to manage business contract or respond to the contingent events in time. In addition to inefficiency, the professionalism of military personnel is to support defense affairs rather than business affairs; it results in that armed forces can’t manage the contract effectively. Hence, by the satisfaction survey in the armed forces suggested by one senior manager, MoND in Taiwan may assess the existing outsourcing system, and the survey results will be contributed to improve the executing problems and mitigate many risks caused by contract management.
Till now, the armed forces don’t have the information interface system between the military armed units and civilian wholesale retailers. The interview data shows that the impacts may lead to delays and long cycle time. But the security risk consideration, however, is the most important factor when building information and interface infrastructure. Although no information interface system between two parties definitely causes delays, inconvenience and complexity, the senior managers think that the problems could be overcome by employees’ capabilities in a short term. Because they believe the human factor is very important when organizations want to achieve the duty successfully. Through the internal training program and communications, managers in logistics departments hope to remove the resistance and further gain employees’ support for new policy. In spite of security consideration, top managers believe that the continuous improvement on building interface structure related to information system is expected to be considered in the near future.

Synthesizing the information provided by managers allows us to conclude that the following determinants actually have direct or indirect influence on the relationship quality and supply outsourcing success: relationship, structure, interdependence, and compatibility. And organizational variables such as human factor also play the key role in achieving outsourcing mission successfully.

3.3 Research findings from military personnel perspective

The major concerns that employees provide are mostly focused on the operational level, but the information remains much valuable for our study. They all conclude that outsourcing improves logistics effectiveness by providing better, quicker, and cheaper goods and services. On the other hand, the personnel in the
supply department perceive a situation in which outsourcing may cause negative impacts. For example, the quality of products, the selections of product category, the supply/demand risk, and shipment policy are the main problems that decrease the logistical and combat capabilities. The respondents believe that the greater control over the contract arrangement, the better the outsourcing performance.

The personnel in the supply department believe that refining information system between two parties has potential benefits on shortening procurement cycle time, mitigating shortage risks, and increasing logistical effectiveness and efficiency. With respect to interface structure, participants note that it may be the problem that top military leaders should put more attentions on; moreover, improvements efforts on interface structure are needed in practice. Despite of inappropriate information system, the supply personnel in the armed units currently appreciate the positive impacts from material outsourcing function. Since the employees work at operational stages, they often meet various some operational problems simplify caused by the poor communications and channels between supply and maintenance systems. The employees demonstrate that policy-makers should keep an eye on not only external interface structure but also internal channels between the maintenance system and supply system.

Employees note that civilian wholesale retailers often show high willingness and efforts on problem-solving. For example, when poor quality of materials or shipment delays appear, the managers at the wholesale retailers always present quick and flexible responsiveness to solve the problems. Such a situation here implies that good partnership and logistics performance will be achieved under higher level of interdependence, especially in the situation that supply partners
show efforts on operational support effectively and efficiently.

Although supply personnel perception of top managers’ support for this outsourcing policy is relatively high, the employees think that the education and training practices on utilizing the outsourcing information system and understanding related operational procedures are relatively inadequate. The employees believe that outsourcing performance will be improved by educated and skilled manpower. In other words, if they are well trained, most logistics personnel believe that they will present good performance. This perception, however, is the same as the knowledge of logistics leaders, providing our research the hint of managerial suggestions. Besides, logistics employees think that the maintenance personnel must be included into the teams of training practices. As such, maintenance personnel have more understanding about the logistics procedures and processes; it is therefore contributing to supply outsourcing success indirectly.

Based on the interview data, sometimes civilian retailers may not perform well during contingencies (e.g. the period of special combat mission). Fortunately, the existing outsourcing system only allow the armed forces contracting-out minor and general resources or materials rather than key capital supports, thus contingencies would be little reason for concern now. Yet, shortage risk and poor quality of products could result in serious damages in duty achievements, therefore military personnel think that paying more attentions on avoiding contingency variables is beneficial to logistics performance. That is, they believe contingency events challenge the performance of current supply outsourcing system.

From the discussion above, we conclude the three determinants of good relationship quality: structure, interdependence, and compatibility. And the
Interview data provided by operational personnel is helpful for us to identify the moderator role of contingency and organizational variables in this study.

4. CONCLUDING REMARK

The purposes of this study is to provide a theoretical model to provide better understanding the existing military outsourcing system from client/vendor relationship perspective. Due to limited evidence on military outsourcing issue, we also review literature focused on business field. Drawing upon the past studies in both commercial context and defense context, we propose a tentative conceptual model that provides nine research constructs and eight research propositions as Figure 1. Based on the material from the case study method, we find out that human factor construct may not be a key determinant of relationship quality, but it still have direct and indirect influence on military supply outsourcing success. Thus, human factor is finally regarded as organizational variables that are expected to examine the moderating effects on relationship quality and military supply outsourcing success. The refined model consists of eight research constructs and seven research propositions as Figure 2.

With limited business experiences, inadequate knowledge, and different organizational goals (e.g. profit-maximizing versus mission oriented), MoND has some obstacles in implementation stage. However, to achieve logistical effectiveness and efficiency, time-saving and cost-effectiveness, the interview data indicates that the senior leaders in MoND show much willingness to support outsourcing programs and present continuous improvement efforts on the weakness in this system. Based on the case study findings, our research provides the
managerial suggestions as follows:

- Providing the training programs and practices for top leaders and operational technicians in both supply and maintenance systems. As such, armed forces will adapt to and appropriately utilize contracting-out supply functions well as fast as they can be; top managers will learn how to manage the business contracts and strategically use outsourcing function to support the defense goals.

- Building the information system and interface structure between military organizations and vendors. Despite of security consideration in military, the benefits will result from this suggestion: higher level of good relationship, interdependence, compatibility.

Due to the exploratory and preliminary nature, there are research obstacles and limitations. The main obstacle is security consideration in the armed forces, which is the key reason for us not to choose more case sites to increase our research validity. Besides, although we propose a refined conceptual model with seven research propositions, which is appropriate for examining the current supply outsourcing system, we don’t conduct the survey and provide empirical evidence.

However, the findings in this study still have contributions. For example, we provide the managerial implications discussed above, and we also have the following suggestions for the future research, including choosing other case sites to identify the appropriateness of theoretical model for better understanding military supply outsourcing system, and conducting a survey to test our research model proposed in this study. Additionally, the future research may study military logistics system based on the different theories or other methodologies such as
AHP (Analytical Hierarchical Process) to realize what the cause-and-effect relationships are in military supply outsourcing policy.
REFERENCE


10. Jan, C.G., 2002. Policy analysis for major weapon system development in


軍事補給外包之成功模型：顧客/供應商關係觀點

吳典樺*
飛機工程系，空軍航空技術學院

摘要

為了改善效率與效能，國軍近來已透過外包政策進行原料與零組件的補給作業。然而有關國軍補給的研究不多，再者目前的文獻較少以顧客/供應商關係的角度來探討軍事外包策略，因而凸顯研究國軍補給系統的重要性，特別是顧客/供應商關係相關主題的研討。透過現有的相關文獻，本研究先提出一個試驗性的理論模型，藉此回答以下三個研究問題：(1) 在成功的軍事補給外包政策中，顧客/供應商關係品質的建構因素為何？(2) 為何關係品質是成功的軍事補給外包政策的重要關鍵因素？及(3) 意外與組織變數對關係品質與軍事補給外包成功之中介效果為何？為了更深入研究問題的探討與了解試驗模型的適當性，我們採取個案研究法來收集資料。透過個案研究法的訪談資料，本研究修正先前的研究模型，使之成為八個研究構面及七個命題的理論模型，藉以提供軍事補給外包系統相關議題的深度瞭解，同時也提供未來相關研究的基礎模型。

關鍵字：軍事補給外包之成功、顧客/供應商關係、關係品質、意外事件變數、組織變數

*通訊作者 E-mail：tienhua5678@gmail.com Tel：07-6256912 ext. 977422