

Research on Supplier Relationship Management of the Main Manufacturer of Large Aircraft Project: A Psychological Contract Perspective

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Abstract: The main manufacturer and its suppliers' relationship management is very important for success of the large aircraft project. The study concentrates on analysis of the relationship management on a psychological contract perspective , shows that constructing good psychological contract is useful to promote mutual trust , reduce the transaction cost caused by incompleteness of formal contract , avoid the risk of supplier management between the main manufacturer and suppliers of the large aircraft project. And with further understanding of the dynamic contracting process as well as formation framework of psychological contract between the main manufacturer and suppliers , we can better understand the relationship black-box and provide a new perspective for the study of the relationship management , then given some constructive suggestions to supplier relationship management.

Key words: psychological contract; the main manufacturer; large aircraft project; supplier relationship management

1 Introduction

Civil aircraft manufacturing industry has a long development period , complex system , high technical requirements , big investment risk , high threshold of market access , and a long return cycle of its project investment , etc , as a result , manufacturers are conscripted to seek partners to reduce the risk of new product development risk. The main manufacturer-supplier patterns which is risk-sharing and benefit-sharing become an important cooperation form of international transfer of aviation manufacturing industry^[1]. For example , nearly 90% of parts manufacturing of Boeing's 787 project are completed with its global suppliers , the company is mainly responsible for system integration and assembly work. And COMAC (Commercial Aircraft Corporation of China ,

Ltd.) , as China's large aircraft project C919's main manufacturer and integrator , undertakes key research and development and production work , and through the bidding way to look for the body structure parts and system equipment suppliers worldwide. So how to strengthen control on suppliers , build a complete large aircraft research and development , manufacture , integration of the product chain , become an urgent question at the heart of the main manufacturer , as well as become the key to success for large aircraft project of China. At present , on one hand , the main manufacturer of China's large aircraft project keeps learning foreign supplier management experience , on the other hand , they combined with Chinese characteristics to adopt double fixed-point supplier management mode , attempted to control suppliers by contracts. However , the aviation industry of China is still not out of the planned economy model of development , contract and other dominant "hard contracts" are not very effective to control suppliers. Such as:

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some suppliers are not in accordance with the contract to perform, can't deliver products timely within the stipulated time, schedule delays, etc.

Psychological contract is mainly used to study the intra-organizational employment relationship initially, there are some groundbreaking research suggesting that psychological contract can also apply to the relationship between organizations, called the inter-organizational psychological contract^[2]. James A. Hill^[3], Mikael Lovblad^[4] thought the evolution essence of relationship between organizations is the formation and cancel of psychological contract, and the psychological contract violation will result in a loss of trust between manufacturers and suppliers. Therefore, the present study introduces the psychological contract which is called as a "soft contract" to large aircraft project supplier relationship management, to explore the many psychological factors of large aircraft project supplier management, to understand the relationship essence of the main manufacturers and suppliers of mutual cooperation and development, and to provide new train of thought for large aircraft project supplier relationship management (SRM), there is no doubt that it will be a valuable attempt.

2 The definition of psychological contract and SRM analysis on the psychological contract perspective

2.1 Connotation of psychological contract in SRM

There isn't a unified understanding for psychological contract definition, but academics circles agreed that it is Argyris who used the concept of psychological contract and terms first, he used "psychological work contract" to describe relationship between factory workers and foremen^[5]. Denise M. Rousseau put forward that psychological contract is essentially the subjective belief (employees mainly) of participants, a process of gradually constructed in practice, and which are understanding and belief on both sides of

mutual obligation held by individual parties to an employment relationship^[6]. While most of the psychological contract literatures have centered on employee-employer relationships, it is reasonable and even desirable to extend evaluation of this theory to relationships at other levels^[7], there are still a few scholars have done some related research, Luo Haicheng^[8] introduced psychological contract to the study of relationship marketing; Gao Weihe, Chen Xinkang^[2] construct inter-organizational relationship based on psychological contract. But an improved understanding of the role psychological contracts plays in buyer-supplier relationships is long overdue, and holds great promise for enhancing the quality and performance of interfirm business partnerships^[3]. With the deeper research, the main characteristics of the psychological contract also make it can be applied to the relationship between organizations^[9], and the relationship between enterprise and supplier is similar with any organization relationship which essence is a multi-level, "individuals are embedded in the organization, the organization is embedded in a larger network of organizations"^[10]. In fact, the relationship between organizations is the result of a series of individual activities^[11]. Therefore, we can understand the relationship between enterprises and suppliers based on a micro-level analysis of psychological contract.

SRM plays a very important role in building core competence of large aircraft project. Today, SRM enters into the union of Guanxi research scope, so that SRM emphasizes getting more consistent understanding and support from internal managers as well as the external suppliers. Psychological contract has articulated the relationship strategy, therefore, the study defined the psychological contract between manufacturers and suppliers of large aircraft project as: in addition to the content of formal trade contract provisions, there are a set of implicit contract, informal agreement, unwritten rights and duties formed by mutual perception and recognition of their expectations, through a variety of

psychological suggestion.

2.2 Analysis of psychological contract in SRM

Contract is a kind of mechanism that can reduce risk and uncertainty in the process of exchange [12], different types of contracts ensure that exchanges between the manufacturers and suppliers can be done. Rousseau divided psychological contract into transactional and relational psychological contract which significantly affect the behavior and loyalty on both sides, make both parties in cooperation “from discontinuous transactional contract relationship to regular relational contract” [13]. In the large aircraft project, the main manufacturer decided to entrust suppliers to research and develop products of large aircraft (“discontinuous transactional contract”), that is essentially equivalent to the manufacturer holds a psychological expectations pay to suppliers, and the manufactur-

er shall afford the risk of loss bring by future transaction uncertainty, therefore, there must be a kind of psychological impulse and demand to reduce risk. On the contrary, suppliers also have a psychological cost that they may lose the opportunity to continue cooperation due to alternative in the future business, both sides look for an income expectations (“regular relational contracts”) as compensation for their psychological cost. In essence, this kind of psychological income and compensation is the psychological contract. If the main manufacturer and suppliers make their psychological responsibilities and obligations expectations fit for each other in the transaction, they will have continuous high quality cooperation desire, trust, thus reducing transaction costs and avoiding the risk of cooperation. (see Figure 1)

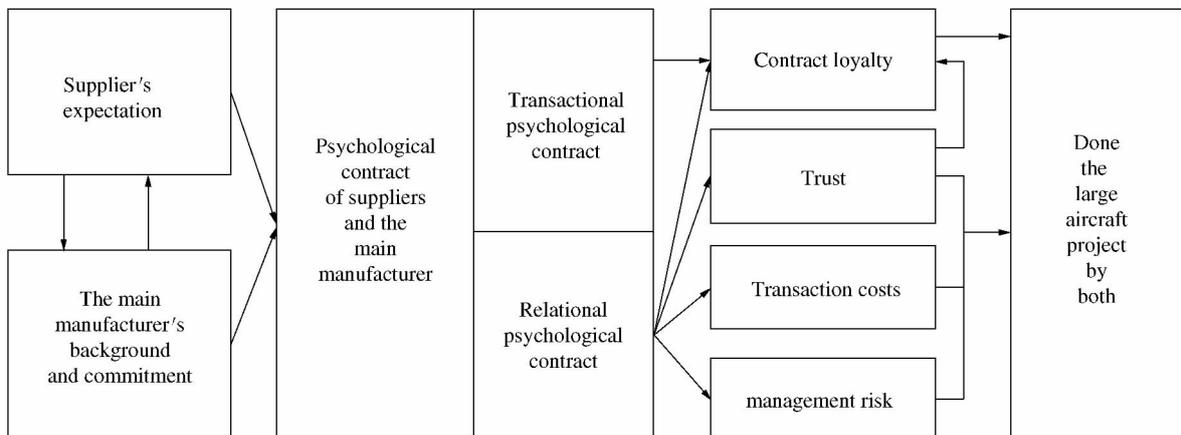


Figure 1 The function of psychological contract in supplier relationship management

Psychological contract plays a positive role in SRM of the large aircraft project.

1) Psychological contract strengthens the mutual trust relationship. Due to the incompleteness of formal contract lead to misunderstanding and information asymmetry on both sides, and result in psychological anxiety and mistrust. While the psychological contract can make up some rights and obligations which not cov-

ered in the formal contract, reduce the anxiety of cooperation uncertainty, and improve the sense of psychological security and trust among the subjects. For example, there has been a problem for the main manufacturer of the large aircraft project C919 whose domestic suppliers did not really understand the supplier responsibility question clearly, just regard themselves as join research unit, but building the good psychological contract can fully arouse the enthusiasm and

creativity of domestic suppliers , enhance each other's mutual dependence and trust.

2) Psychological contract can save transaction cost caused by incomplete formal contract. There is time and space distance between the main manufacturer and especially their foreign suppliers , so that reaching an new agreement from incomplete contract waste time and resources , even they are unable to reach an agreement in the end. Therefore , the way trying to get perfect contract is not feasible , moreover , relying too heavily on a fine contract can only increase the exogenous transaction cost due to guard against supplier management. However , consistent with the suppliers on the target , the right incentives and perfect management , mutual trust , stable cooperation which are rough contract , the main manufacturer can save transaction cost , stabilize relationship with suppliers.

3) Psychological contract can circumvent the supplier management risk caused by incomplete formal contract. There are some inevitable ambiguity on formal contracts in practice which provide the space of speculation to opportunism , but the psychological contract can use its implicit , unwritten expectations to cover and remedy rights and obligations that the formal contract did not included , after the psychological contract was fitted effectively in cooperation , the main parties will produce emotional preference , continuous cooperation desire and service satisfaction , and what is more , the main manufacturer is able to motivate and coordinate supplier's behavior and psychological activity to avoid speculation space left by the formal contract , as well as to reduce the risk of supplier management as much as possible.

3 Building and managing psychological contract between the main manufacturer and suppliers of large aircraft project

Along with the development of the economy , the main link between manufacturers and suppliers is closer

than simple market mechanism , the content is more complicated , such as dealing with every case rightly , service support , information sharing and exchange , supply control , trust-commitment , and long time co-operation^[2] , the mechanism of "benefit-sharing , risk-sharing" enables the manufacturers and suppliers' demands transform gradually to pursuit of the emotional satisfaction , a simple economic interest relationship has difficult to cover all the meaning and space of relationship between the manufacturers and suppliers. This mental model between the manufacturers and suppliers requires psychological contract to regulate and articulated , and both parties' psychological contract also provide link and windows for psychological communication. Hence , clearly knowing the process of the construction of the psychological contract between manufacturers and suppliers , we will manage supplier relationship better.

3.1 Construction of the main manufacturer and suppliers' psychological contract

The construction of psychological contract between the main manufacturer and suppliers is a dynamic , interactive process , there are four main link , as shown in Figure 2. First of all , on the selection of suppliers , both parties hold a perception of mutual rights and obligations according to all kinds of information. Secondly , because of influenced by one's own characteristics (such as the establishment background of the main manufacturer , development demand , suppliers' country , ideas , attitudes , etc.) , one translated formed psychological perception judgment into some expectation for another party. Next , in order to get opportunity to work with the main manufacturer , the suppliers may send relevant cues and commitment as well as the written offer in the process of psychological expectation expression and communication with the main manufacturer , however , the main manufacturer will choose suppliers which fit their expectations to establish explicit contractual relationship(not discuss in the study) . At this point , there are also existing un-

apprehended perception and psychological expectations on two sides. The last , in the process of contract performance , they also use the way of psychological suggestion to perceive and communicate their own contract which is not covered by formal contract or the new expectations generated in the process of their cooperation. If their psychological contract were tallied with each other , then the psychological contract would be carried out ,but consistent psychological expectations are also likely to change and break as the environment is changed. If without a pleasant agreement , both sides will screen anew and analyze all kinds of external information to make new perception judgment about their respective rights and obligations , and they would turn into a new mental perception and communication. Thus it can be seen that the psychological contract between the main manufacturer and

suppliers is dynamic. The construction of psychological contract around all activities included supplier selection , evaluation , index system establishment , procurement , relationship maintain etc. And the psychological contract have no fixed mode and standardized content in the whole supplier relationships , but with the changes of environment and individual mentality to change ^[14] ,because of the suppliers' behavior that prompt delivery and guaranteed quality makes the main manufacturer realizes the importance of suppliers in the large aircraft project ,then the suppliers can get further cooperation opportunities with continuing operations of the main manufacturer , this is the basis of psychological contract to form for both. With behavioral and emotional input on both , the main manufacturer will obtain self-evident benefits for it's SRM.

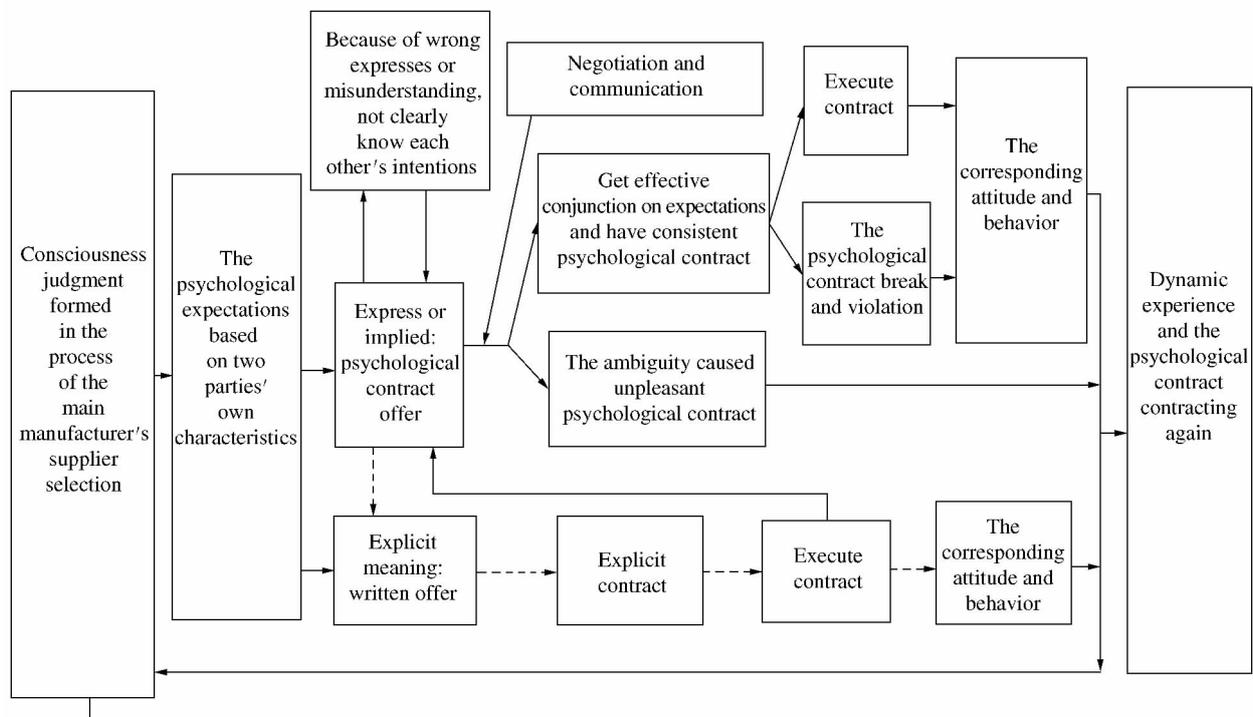


Figure 2 The construction of psychological contract between the main manufacturer and suppliers

3.2 The main manufacturer of large aircraft project's SRM based on psychological contract

In essence , the relations between the main manufac-

turer and suppliers is a contract system composed of dominant economic contract and recessive psychological contract , its development is always in a dynamic

process, but it produces challenges for SRM. Large aircraft project needs to build good psychological contract with suppliers, and through understanding mutual psychological contract to improve SRM level, as an old saying goes "To know the enemy and know yourself, and you can fight hundreds of battles with no danger of defeat". The concrete steps are suggested as following:

1) Learn and fuse each other's enterprise culture.

Modern enterprise culture theory considers that the essential attribute of enterprise culture is a kind of psychological contract, the conduct, guidance, coordination and incentive of enterprise culture to its members is based on individuals and organizations, individuals and individuals' "psychological contract" in enterprise culture^[15]. Once enterprise culture formed, it could produce role norms and value guidance to members, the role of group identity finally through social angle and the formation of psychological contract to work and make both parties be able to interact and develop together in a common platform. There is no doubt that there exists cultural differences between the main manufacturer and international suppliers, what is more, the non-compatibility of corporate culture with local suppliers can also cause communication barriers which influence mutual trust and commitment. So, first of all when facing to the enterprise culture differences, the two parties should identify, understand and respect each other's differences. Next, the main manufacturer should build tangible and intangible, formal and informal learning cross-cultural communication channels consciously, form cross-cultural, multi-dimensional culture communication mechanism, and learn more skills and methods of cultural communication, through the cultural integration to eliminate conflicts arising from the main manufacturer and suppliers' cooperative and strengthen the stability of the bilateral relations. The last, the way to improve the transparency of cooperative behavior and process to eliminate the estrangement between each

other, make both sides' corporate culture to coordinate and blend each other in study. The more similar of the main manufacturer and suppliers in cooperation with their respective cultural elements such as management philosophy, the value idea, the more opportunities to increase the consistency of thought and behavior, thus it is good for reducing the contradiction and conflict between each other, and improving the stability of the large aircraft project.

2) Strengthen the way of incentive and risk prevention to suppliers.

Supplier incentive is very important for the main manufacturer of large aircraft project to maintain long-term partnerships with suppliers, especially establishing an effective supplier incentive mechanism. There are some problems on suppliers of large aircraft project, such as some supplier's enthusiasm is not high, some suppliers are content with things as they are, aiming at this kind of condition, the main manufacturer need to motivate suppliers, grasp their demand, fit with supplier's psychological expectations and improve supplier satisfaction to mobilize their enthusiasm, this is also an important part of supplier's psychological contract. There are some incentive ways the main manufacturer can use to suppliers for motivation, like price incentive, order incentive and reputation incentive, eliminated incentives, investment and technology incentive, information incentives, etc. Furthermore, supplier classification should be revised timely, and set up the supplier management system for suppliers daily operating. The main manufacturer also can establish some terms, such as "the best supplier", "the best improvement award", "quality improvement award", "exempted from inspection product" and other awards, to encourage good suppliers, as well as give certain exempted from inspection, simplify examination and verification work in the business process and management regulations on SRM. Suppliers perceived positive behavior incentive, then they will strengthen the psychology and behavior. Mean-

while , subjectivity and dynamics of psychological contract have increased the uncertainty of the main manufacturer and suppliers , so the risk prevention of supplier management is also required , which contains strengthening information communication , correcting misunderstanding and distortion of information timely , establishing cooperative communication and information sharing platform. Given the uncertainty of the risk , it is necessary to establish risk mechanism to resolve all kinds of accidents timely and effectively appeared in the process of cooperation with suppliers and reduce actual loss brought by the risk.

3) Foster mutual trust mechanism with suppliers and strengthen the coordination and communication with suppliers.

Trust-commitment and inter-organizational psychological contract influence each other , psychological contract and trust are essentially perceptive feelings , once both parties invest emotionally for each other and expresses the sincere concern and the attention to collaborators , the perceptual trust of emotional connection will make both sides reach a tacit understanding that can solve many unexpressed problems , this kind of “ human feelings ” intertwined by emotion , material and code of conduct whose involvement may even lead to consensual “ Inequitable exchange ” , which fully embodies the important role of human feelings and relationship in Chinese enterprise management. But the most important part to build trust mechanism is mutual communication , a large part of reason for the violation of the inter-organizational psychological contract and trust mechanism is that restricted communication causes understanding deviation and hence formed the irrational psychological contract violation. Therefore , the main manufacturer of large aircraft project should step up comprehensive control measures to foster mutual trust mechanism and strengthen the coordination and communication with suppliers , the main manufacturer establish risk-sharing and benefit-sharing strategic partnership with suppliers

through multiple ways to achieve mutually beneficial symbiosis.

4) Dynamic management of suppliers’ psychological contract.

Suppliers’ diversity on the demand , the values , the culture concept , enterprise ability , etc , may lead to the huge differences in psychological contract perception. What’s more , the subjectivity of psychological contract also determines that psychological contract is a dynamic development process , so the main manufacturer should develop differentiation , personalized management for suppliers according to suppliers’ psychological contract. As thousands of suppliers of large aircraft project can’t be treated equally , due to their differences in cooperation importance , management mode , the main manufacturer may adjust the proportion of supply , quantity , and the priority of payment according to classification of suppliers. Different cultural background and the improved development requirements make the transactional psychological contract effect is reduced in psychological contract , international suppliers often pursue the diversification of cooperation , such as cooperation quality and so on , domestic suppliers often pay attention to “ human feelings ” of cooperation and specialization of management , etc. It is worth noting psychological contract breach and violation in dynamic management of supplier relationships , and to have consciousness of crisis management , to maintain and repair suppliers’ psychological contract actively , then it is good for long-term stability of psychological contract between the main manufacturer of large aircraft project and suppliers.

4 Conclusions

Supplier management ability is one of the core competences that the main manufacturer of the large aircraft project devoted to construct , in the process of constructing the ability , the psychological factors in the main manufacturer and suppliers’ relationship man-

agement is a problem worthy to be discussed , and the present study made a preliminary discussion. It has a vital significance for SRM of the large aircraft project to research on dynamic development process of the psychological contract. Firstly , the study started from the mental model that sustained organizational relationship—the psychological contract , to analyze the main manufacturer’s SRM , shows that it is not enough to rely on the dominant contract to constrain both parties’ behavior , subjective dynamic psychological contract is able to make up uncover contents for formal contract , but it is worth noting that the psychological contract are also easy to break and violate. While maintaining good psychological contract with suppliers , the main manufacturer will strengthen the mutual trust with suppliers , reduce the transaction costs brought by incomplete contract and avoid management risk. Secondly , clearly knowing about the dynamic contracting process as well as formation framework of psychological contract between the main manufacturer and suppliers help to manage supplier relationships better. The psychological contract between the main manufacturer and suppliers is a dynamic process need to contract continuously. Based on above , the main manufacturer can pay more attention to the communication of enterprise culture , incentive for suppliers , the communication and negotiations with suppliers and differential personalized management to suppliers in SRM.

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