Principles of Successful Outsourcing of MRO Services

Abstract

The world is full of people who want to do business with you. Some of them are very good and some are very bad. Then, of course, there are all of the ones in between. As products of our experience, we approach each new potential vendor in the way that we have found most successful in the past. That may be openly and with trust or it may be guardedly and with suspicion. The way it should be, but all too often, is not, is deliberately with a pre-defined plan that includes what we want from the supplier, how it will be supplied, how we will monitor what is supplied, and of course, how much it will all cost.

Many potentially successful business relationships have been destroyed because either or both parties failed to exercise adequate planning and oversight of the relationship. Let me be quick to point out that such failures can and do happen when both parties have the best of intentions and even when they perform all of the other technical aspects of the business relationship competently. But preparedness can be an effective guard against such failures.

This paper will explore the nature of a successful relationship between a client organization and its long term product/service suppliers.

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Introduction

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A business relationship is a lot like a marriage. Both parties have to work at it to make it succeed. Both parties have to be willing to compromise. Both parties have to learn to understand what the other means when it says something. Both parties have to be willing to sacrifice a little from time to time if the long-term benefits of the relationship are going to be achieved.

Most people don’t plan their marital relationship in advance; they just let it grow. Maybe they learn quickly enough to stay ahead of problems, maybe they don’t. In marriage, this sort of planning seems a little too detached for most of us. But in business, detachment is a virtue. The pre-planing of what it takes to make a business relationship work should be a normal course of doing that business. When it is done, and done correctly, in the majority of cases it results in a long and successful relationship.

This paper discusses the kinds of planning that should be done and the expectations which that planning should fulfill from the point of view of the organization seeking to procure goods or outsource services on a long term basis. I will use the term outsourcing throughout this discussion, but the concepts discussed apply in like manner to long term procurement arrangements.

Outsourcing Objectives

Each company involved in outsourcing will have a set of objectives for that effort. These objectives will involve both common and unique characteristics of the business and the final decision on whether and how to outsource will be driven by a mix of many factors. A few factors are common across companies and industries; these are cost reduction, quality and schedule improvement and ease of management. In a recent study commissioned by Lufthansa Technik these items were all highly ranked by the airline executives surveyed[i].

The Goal of Cost Reduction in Outsourcing

The prime driver in virtually all outsourcing efforts is to save money. We all recognize on its face, the value of this goal. What is a little more challenging to determine, is where to set a goal for this reduction that is both realistic and accurate. A realistic cost reduction goal may start with a management objective of a specific actual dollar cost level or percentage improvement. However, this goal must always be evaluated against real world conditions (i.e. supplier capabilities) in order to ensure that's its implementation will be successful. It may be the case that the goal will have to be achieved in successive steps, or even re-evaluated based on shear physical impossibilities. It remains a fact that unachievable goals can and will be established and it often falls on the people charged with achieving those goals to point out their inherent impracticality.

The accuracy of the goal comes into the picture when an organization carefully and correctly assesses all of the peripheral costs associated with an outsourcing effort. If for example, an airline elects to outsource all of its line maintenance activities, it reduces the cost of the personnel and facilities currently used for this maintenance. But at the same time, it implicitly offsets these savings to a greater or lesser degree by increasing the workload of the procurement/contracts organization which has to solicit and manage these suppliers, the workload of the quality organization which has to qualify and monitor these suppliers, the workload of the accounting group that has to pay these suppliers and audit the associated records and possibly, to some lesser extent, the workload of other groups within the company.

The first step, therefore, is to determine what the real costs of the activity are. This sounds like it should be a pretty straightforward task. All companies have accounting systems, which capture their costs and break them down into relevant buckets. However, it is very often the case that the model used for collecting costs is driven by management objectives in information output (in other words, putting out shareholder reports which portray the picture that management wants to tell), or by political posturing within the management hierarchy and not by an unfettered desire to know exactly what each element of the operation costs.

But even in the well designed cost collection system whose goal is to reflect actual expenditures, the complex interaction of activities across departments will generally force the model to make choices in the way information is grouped which won't match the demands of the current cost reduction exercise. For example, a backshop that performs machining for a maintenance operation will probably be able to track its direct labor cost to the particular aircraft and work card for which a part is machined. This allows some pretty good calculations of overall labor cost and labor utilization. It is also likely that the capital investment in the machine shop will be known and there may even be some reasonable capture or allocation of operating supplies and expenses.

However, the cost of inspection labor associated with the machining operation may well not be identifiable. The cost of purchasing support for machining almost definitely is not. And the same will hold true of facility maintenance and housekeeping, personnel, training and so on. As a result, these costs are generally treated in blanket fashion as overhead. In the overall scheme of things, these overhead of costs may not be important and will probably be incidental in this particular example. If only machining is being considered for outsourcing, it should be pretty easy to consider these impacts and come up with a reasonable calculation of the directly associated costs for outsourcing machining. But if a number of activities are being evaluated at once and any of the activities have unique or exceptional overhead costs (e.g. chemical handling and treatment), the calculations, and the interrelation of the calculations, can get more complicated.

It is unlikely that any organization will misjudge these costs so significantly that the whole endeavor is flawed, but in an effort to reduce costs by 5%, it is not that hard to misjudge the initial calculation of the savings themselves by 10%. This means that the organization is already ½% shy of its goal before it even starts.

After identifying all of the costs which can be removed from the operation by outsourcing, it is next necessary to estimate all of the new costs to be added in. This is one area where it’s probably not possible to over evaluate the process. In the above example, when the machining operations are outsourced, the roles of purchasing, vendor surveillance, shipping and receiving, all increase. Depending on the existing shop floor process, the roles of the mechanic, inspector and supervisor may also increase. But perhaps the largest potential for impact comes from the change to the work flow process. That in-house machine shop may not have been very responsive to the needs of the hangar floor, but the logistics involved in sending a part out and bringing it back in a suitably controlled manner must automatically increase the basic flow time of the process. To the extent that that process has little room for increases, problems can mushroom. It is well known that the cost of not having a part when it is needed is probably the single largest cost-driving factor in aircraft maintenance.

The Goal of Quality/Performance Improvement in Outsourcing

We recognize the potential benefits of specialization in all aspects of our business endeavors. By concentrating on a specific function or group of functions, an organization can carefully tailor all of its systems and processes to those most appropriate for the task being performed. By devoting all of its energies to a specific task, it can gain the experience and expertise required to do that task better, qualitatively and quantitatively than non-specializing competitors.

Taking advantage of these business “truths” can be a strong inducement towards outsourcing activities. As an air carrier, the primary business of the company is to carry people and goods between locations. If an airline is going to specialize in it’s own business, there are a lot of things that go into that business which can become distractions from the primary obligations. Activities which support the overall objectives of the company fall into this category when they become large enough or complex enough to require significant and dedicated attention to their completion.

Within any large company there are service organizations; departments which provide services to the rest of the company separate from the processes involved in providing the company’s product. For airlines, maintenance is one of these services. (Some airlines have elected to turn this internal service into a bona fide product offering by structuring their maintenance department as a profit center and selling their services. But even in those cases, the vast complexity of the operations which go into the process of maintaining aircraft force them to look outside of the company for some services.) Performing the services involved in aircraft maintenance is a large and diverse task. Maintaining all of the capabilities necessary to deal with the technologies is probably no longer a possibility. As a consequence, airlines look to outsource. The candidate functions can be as limited as plating processes for engine components or as broad as all periodic maintenance.

The preceding statements not-withstanding, the specialist in a given activity is not automatically a higher quality provider than the organization which performs the activity in support of its intended function. But it is inherently more likely to be so. Each company focuses on its specific goal and devotes its energies to attaining that goal. The quality of a company's product is a function of the focus on that goal. It is axiomatic that the more removed activities become from that goal, the more difficult it is to maintain the focus on the quality of that activity as being contributory to the quality of the company's product.

An extreme example would be in installing a new telephone line in the headquarters office building of an airline. This activity is not going to be viewed as particularly relevant to that airline's customer satisfaction. Indeed, it is probably irrelevant. But just as we recognize this, we recognize that all of the airline's other activities tend to fall into an hierarchy of importance, with those activities closest to the passenger's perceptions receiving the greater share of the company's attention and the greater focus on quality.

The supplier whose end product is that special service that is performed for its airline customer will be focused on providing their quality in that product. As this is necessarily closer to the supplier's ultimate purpose than it is to that of the airline customer who requires the service only as a part of a greater end, it is almost invariably more likely to receive greater attention. This sort of attention greatly increases the likelihood of producing the service with higher quality than if it were performed by the customer directly.

Many airline maintenance personnel may take issue with this because it seems to imply an inferiority on their part. But that is not the case. What the axiom really illustrates is that the worker performing the job in the supplier's organization is far more likely to have the direct attention and support of the company as a whole, including equipment, materials and support activities directed specifically at what he is doing than will the airline maintenance technician working in a backshop or hangar.

Certainly, many organizations manage to perform a wide range of functions without going outside of the company. And many succeed at doing these things well because of the advantages inherent in ownership of a process. It remains however, that very few internal organizations can provide the focus and process efficiency of a supplier that specializes in a particular service.

The Goal of Simplification in Outsourcing

There was a time when a pilot took care of his own airplane. Things got more complicated however. Airlines originally maintained their own fleets for the most part. Again, things got more complicated. With the complexity of today's aircraft, it is economically impossible to maintain all of the capabilities necessary to keep those aircraft flying. Hence, we have outsourcing.

One of the benefits of outsourcing that became apparent as the practice grew to a broader scope was that a lot of infrastructure could be reduced and in many cases eliminated by outsourcing. This simplified many aspects of running an operation and in some cases became a goal in itself. In recent years we have seen airlines start up with the expressed intent of outsourcing everything possible. The rationale behind that being that management could focus its attentions almost exclusively on operating aircraft. While these start-ups have met with mixed success, in the competitive environment in which they operate, far more than just this management philosophy must be considered as causal.

Simplification, as a goal for a company, remains a viable objective. It is a goal that takes careful planning and a reevaluation of the way in which an organization operates.

Supplier Objectives

Each company that enters the transport aviation support industry, enters with a set of objectives. These objectives are not unique to this industry in any way, nor is the manner in which they are met. These are universal business goals and they are the same business goals held by their customers.

The Profit Objective

Everybody's out to make a buck. We all have to survive and that doesn't happen without creating profits. This is not a bad thing; it's a normal thing. But all too often, this basic principle is viewed as being responsible for adversarial and even predatory business practices. There are, and always will be, people whose objectives for gain take little consideration of those from whom they will gain. But I think that these people are truly a small minority. That they do exist, colors the beginnings all business relationships because we all want to be sure we're not dealing with one of these people.

A natural inequity in business often takes this concern and focuses it upon business relationships incorrectly. In business, there are some endeavors which produce high returns and some which produce low returns. When considering this on a macro scale, we tend to equate the high return ventures with being high risk and the low return ventures with being low risk. In our day to day endeavors where a micro view is more common, this is very often not evident. What is evident, is that some businesses make more money, spend more money and have more money. There are clearly as many reasons for this as there are businesses.

Back on the macro side, some generalities do exist. Some types of business are inherently more profitable than others. In spite of this, many companies continue to operate in business endeavors which they know will not produce the level of returns available to them if they were to expend their efforts in other endeavors. This element of choice creates situations where businesses deal with each other even though they may be operating on significantly different basic economic assumptions.

Where this becomes a problem is when the have-nots (or have-lesses) expect return equity from their business relationships. That is, where a company that operates at a 5% net profit margin expects its suppliers to realize no more than 5% profit on their transactions. It is inappropriate for a supplier to expect a profitable customer to pass along an unearned share of that profitability simply because the customer has that profitability. It is equally inappropriate for a customer to expect a profitable supplier to undersell its product just because it can. What is appropriate, is for each participant to understand the part that the cost/price element plays in its own business requirements and focus on ensuring that that requirement is satisfied.

An acceptance of the consequences of our own choices is fundamental to establishing a successful business relationship with companies that have made different choices with different attending consequences. Profitability is perhaps the biggest of these.

The Growth Objective

There are companies that do not wish to grow. Primarily proprietorships, these organizations exist to satisfy the career desires of a founder or owner. The vast majority of companies on the other hand, do seek growth. Growth provides greater opportunities for new business. Growth provides greater potential to influence both the nature of the services provided and the market rate for those services.

Companies can pursue growth in many ways. Primarily this is done by expanding the customer base (market expansion); add more customers, sell more product. In commodity markets, as in the case of food products for example, this automatically creates a distance between the supplier and its customers as the people involved in production become isolated from the end consumer by layers and layers of distributors and resellers. This distance can be accepted by the supplier or the supplier can continually look for ways to overcome the distance by reminding the customer of the product (advertising) or by offering the customer some independent motivation for buying it (contests, awards, special services). In the MRO environment we're not quite dealing with a commodity (although it often times feels that way). Here, the nature of the service provided should automatically provide a differentiation. With a differentiated product, a supplier can grow its business by appealing to an ever-wider range of customers and by virtue of the nature of the services provided in MRO operations, direct contact with the customer is very much the norm.

Another growth vehicle is broadening the product line (capability expansion). Many suppliers regularly assess the needs of their existing customers to determine if they can offer more products or services to them. This capability expansion provides a higher level of risk than market expansion. Often the new capabilities can require new kinds of infrastructure or involve new technologies which the supplier must acquire and master in order to facilitate the growth. The potentially balancing benefit of capability expansion is that it can provide a customer with some slightly less tangible, but very real, benefits like reduced procurement costs, reduced vendor surveillance costs and reduced administration costs.

A third method of realizing this growth is expansion by acquisition. This increasingly popular approach can involve one or both of the other types of expansion.

The Stability Objective

All companies look for stability. Occasionally an individual who espouses instability and insecurity as vital drivers of innovation and change will crop up, but no company is staffed entirely by a workforce that holds this view. For even the most daring and radical companies, a level of personal security has to be provided for the workforce to keep the business going.

For most companies, day to day stability is the most prized asset. It provides a level of personal comfort, which allows people to perform their jobs with a minimum of stress. It provides an environment in which employees and management can learn to know and respect each other. And it provides an environment in which a company can develop and improve itself in order to meet changing market demands, in order to grow and develop and in order to make that profit that everyone needs, so that there will be a paycheck next week.

In order to achieve this stability, a company will look to do four things: it will look to broaden its market to make it less susceptible to the problems of customers, it will look to improve its product offering in an effort to make itself a preferred source, it will look to establish the longest term contract arrangements it can so that a guaranteed base level of business can be counted on and it will look to keep its customers satisfied.

The Supplier's Mission Statement

The contributing factors to stability are much the same as the methods for achieving growth. But while the tools are the same, they can be used differently to attain one, the other, or a blend of the two goals. As a customer, it is helpful to understand the goals of a supplier. It may well be safe to assume that a supplier wishes to be profitable and it may be safe to assume that a supplier desires stability. But there are varying degrees of both of these desires and a broad spectrum of interests in growth. Each supplier will have its own desires with respect to reaching those goals and those desires translate into a business operating philosophy. This philosophy may be expressed as a mission statement, but even when it is not, it still exists as a fundamental part of the supplier's internal culture[ii].

When a customer makes a request that runs counter to the operating philosophy of its supplier, it puts that supplier in a precarious position. The supplier must now evaluate the seriousness of the request on the part of the customer, the implications of satisfying that request for its business operations and the impact not satisfying that request will have on its relationship with the customer. It must then decide how to address the request. All too often, the responses a supplier produces to such requests are detrimental to one or both companies and ultimately, the business relationship.

Outsourcing as a Program

Principles of Successful Outsourcing

Outsourcing can be as simple (although we should always be careful of just how complex our simple activities are) as effective purchasing; particularly, with the simple single function type of services. Outsourcing can also become extremely complex as the outsourced functions grow more elaborate and more closely linked in both time and perceptible results to the product offered to the end customer. Perhaps the clearest case of this is the case of subcontracting a maintenance check. Ideally, the aircraft should go directly into service upon release from the repair station performing the check. Yet if this is the way the program is structured, the outsourcing airline has little buffer to protect its passengers from a late delivery from the supplier.

In these situations, the airline needs the supplier to function as if it were a subsidiary or in some other way, truly a part of the airline itself. In other words, it needs the supplier to be on the “team”.

Application of Program Management Principles

In program management, we focus on organization and communication. We build a program plan. That plan includes a schedule. We define the resources needed to execute the plan and secure those resources. We communicate the whole plan and in particular, each participant’s part, to all those involved in the program. Then, when we set the plan in motion, we monitor the progress of the plan each step of the way and, when problems arise, address them promptly, adjust the plan as necessary and continue the cycle.

When this process works best, it is because in addition to all of these steps being followed, all of the individuals involved are participants in the plan and not just performers of the process. This team approach to project performance has become widely accepted for internal endeavors. It is no less suitable for projects involving multiple companies.

Program Planning

In outsourcing, all of these same activities can be applied to the process. The Program Manager's role is performed by a key player in the outsourcing organization. This person my be a true Program Manager and carry that title. This person may also be a buyer who lets a purchase order for a service. In the former case, the outsourcing company may devote significant resources from its organization to the project, in the latter it probably won't. In either case, the people playing the role of Program Manager should understand the process of program management and know how to implement it.

As in the case of a classic internal project, program management of an outsourcing program works best when all of the individuals involved from both organizations are participants in the process. It is here that an outsourcing program is most likely to fall short of the program expectations.

The breakdowns often begin to occur in the early planing stages. A plan is built by an organization based on the needs that that organization recognizes. Those needs as initially defined may or may not recognize the realities of the external parties later to be included which will ultimately affect the program. In the much publicized 777 program, Boeing went to great lengths to bring in customers and suppliers early in the program to contribute to virtually every aspect of the program. This sort of team effort has become common in manufacturing industries, perhaps particularly so in aerospace. It has not yet become particularly common in the MRO environment.

Program Scheduling

Schedule, is probably the biggest shortcoming in the planning phase of outsourcing. All too often, the schedule goals handed down to a supplier are not reevaluated in light of the realities of accomplishing them. Schedules should be negotiated with a recognition of what will provide the least overall program impact. It may indeed be necessary that a product is turned in a given period of time in order for the customer to continue operations. It may also be possible for a selected supplier to meet that turn time. But if that turn time is not a regularly achieved normal turn time for the supplier, satisfying that schedule will not happen without special efforts and without special risks. These efforts and these risks should be accounted for in the program plan to ensure that the desired schedule is achieved.

Program Resource Allocation

The resources aspect of the plan tends not to be so neglected. Evaluation of supplier capacity, both from a capital and personnel perspective is common in outsourcing. Most programs which falter because of the application of supplier resources, do so because the supplier oversells his capacity or because the customer increases his requirement beyond the initially evaluated level. It does happen that an organization under-commits its internal resources when outsourcing as discussed earlier, particularly when it is doing so for the first time. This affects the quality and longevity of the business relationship more than the delivery of the product, but in the long run, if the relationship is not sound, it won't prosper and neither party will be able to optimize their benefit from it.

Program Communication

The real long-term shortcoming of outsourcing programs in the MRO environment is in communication. The customer-supplier relationship seldom survives as a partnering one for long. This is due in part, probably in large part, to the regulatory environment in which we operate. Air carriers are charged by regulation with ensuring that their suppliers conform to the requirements of their operating certificate. Because ensuring regulatory compliance has traditionally been a policing action in our industry, most companies that outsource, police their suppliers in order to demonstrate their own compliance to the people who police them. Unfortunately, policing is adversarial and adversarial relationships do not foster communication or build teams.

Communications between a customer and supplier can become very rigid and narrow if the supplier anticipates a negative response from the customer regarding a problem with the program. This guardedness will start on areas of a regulatory nature, but it easily and almost necessarily spreads from there to all forms of communication between the two. At this point, the communication of both overall program progress and the activities of groups and individuals involved in the program begins to decay. Once this has happened, the program team has been broken and any original plan lost.

The Outsourcing Team

Everybody makes mistakes. We have quality systems to maximize the chances of discovering and correcting those mistakes before they cause problems. We need not to loose sight of this and to view the findings through our quality system as evidence that overall we're getting what we want out of our systems. (Further evidence of course, is found in a low and decreasing repeat rate of these finds.) In a successful outsourcing relationship, the respective departments in each company complement each other by sharing their experience with the product or process at hand. Often whatever sharing does occur, occurs only between the quality organizations. Occasionally, engineering groups will work together on a problem. But rarely do planning, production, program management or accounting groups interact with each other.

In building a successful outsourcing team, these activities should be included in an ongoing manner. Each company participating in the relationship, should establish its needs not just in terms of the product or service rendered, but in terms of the informational needs of its internal organizations. Inter-organizational mechanisms to provide for these needs should then be built into the program with responsibilities assigned appropriately and as widely as possible. By expanding the concept of what is being delivered to include the informational requirements of both the supplier and the customer and then including the right people to provide that information on the project "team", the companies can share in the experiences gained by each other throughout the project. In this way each participant can become better at its role in the relationship and in so doing add to a continuing improvement in the program as a whole.

Principles of Communication – The theory of discourse and understanding

Communication is many things. Communication is not two people sitting in a room talking with each other: at least not for sure.

The number of times that information has been passed from customer to supplier and supplier to customer without ever communicating what was intended must be just shy of infinite. We thrive on communication in business today with phone, fax, e-mail, mail, express delivery, conferencing, meeting and on and on. All too often, the act of "communicating" is interpreted as communication; in truth, it is not.

A vast body of writings has developed in the last 50 years on the topic of communication. Philosophers, psychologists, language theorists and information theorists have devoted careers to determining what is going on when we try to communicate, how and why it works, and of course, how and why it doesn't. Any subject which touches so deeply on the workings of the human mind is bound to be complex and difficult to define. But a few of the more basic tenets of communication theory are worth a bit of reflection.

Most communication theorists rely on one version or another of a communication triangle that includes the two parties communicating and the message being sent. Practically, there is a fourth element, that being an external reality. Beyond this, there are many theories and variations on how these elements work together as well as other factors which enter into a discourse. We do not need a comprehensive communication theory to discuss what happens in normal business communications however.

For the most basic form of communication to exist there must be a) a communicator, b) a message, c) a receiver and d) a referent reality. In business, we generally mange to get that part right. But there are a few more obvious, but all too often lacking, elements or conditions on these elements that are also required. For one thing, the receiver must be paying attention. The common business jokes about falling asleep, daydreaming or working on other projects during a meeting are both funny and common because they are so true. Yet we continue to leave meetings assuming that what we've said was heard and understood by all of those in attendance. Another common oversight is in our reliance on our communication systems. Once sent, a message is assumed to have been received, whether voice mail, e-mail, regular mail or what ever else. This is not always the case. Follow-up is critical to communication, but follow-up takes time and we are unaccustomed to taking time to check something when the systems we trust are being used.

Still another problem with communication has to do with the language itself. By and large, language is pretty vague, both because we rarely take the time to be precise with it (or we just plain prefer to be eloquent) and because the very words we use have so many meanings and variations of meanings. Unfortunately, this communication barrier is a difficult one to overcome. The "reality" element of the four I cited above must be adequately represented by the "message" for a communication to succeed. This requires both a proper choice of words to communicate and a shared understanding of those words.

Choice of words can be challenging at times, but correct choice is reasonably possible. The problem can more often come from a difference of understanding (or use) of the words being communicated. "Late" is a pretty common term in business communication. We all understand "late" as something similar to "after due or required". But in business, "late" takes on many different flavors as the lateness creates impacts varying from catastrophic to unnoticed. Thus, in contract negotiations, one party may be thinking of the worst possible scenario when using the term late, while the other is thinking about the most common scenario which is generally something else. This is just one example, but the principle holds true for most adjectives, many verbs and a fair number of nouns used in contracting and conducting business.

The problems this can create go far beyond simple misunderstandings. While a great many such differences of understanding can occur during the course of a business relationship without causing any difficulty what so ever, they have been the root of many a failed relationship. While we may communicate information to each other, we often fail to recognize that the message received isn't quite the message sent. What makes this problem so surprising, is the fact that while this type of miscommunication generally happens by accident, it is also a fairly common tool in business, if not perhaps as much so as in politics.

Theory aside, communication is vital to the success of any business relationship and elemental to the process of team-based activities. Recognition of this and attention to the success of communications is key to successful outsourcing activities.

Maintenance, Repair and Overhaul as Legal Terms

We operate in an environment in which the terms "maintenance", "repair", "overhaul" and "re-manufacture" are defined in regulatory law. As such, all of our contracts and purchase orders read to reflect those regulatory definitions. What is all too easy to overlook, is that there is a very broad scope within each term, of what can occur to satisfy the threshold requirements of the definition and what can occur beyond that threshold without attaining the threshold definition of another term.

We've all had the experience of receiving the same "service" from two different suppliers and finding almost no similarity between the two. This applies to repair stations every bit as much as to plumbers. In both cases, the supplied service meets all of the definitional requirements of the term, but there remains a big difference in the value of what was received. All too often, we throw the term "quality" at the difference and explain it away in that manner. The term "quality" has a place in the business relationship, but this is not it. There is a wide latitude for quantitative differences in outsourced services. Quantitative differences should imply cost differences, but with such a limited vocabulary to work with, these differences are difficult to define.

A quantitatively simpler overhaul will have an obvious cost appeal for a supplier. There may be other appeals or motivations within the supplier's environment that outweigh that appeal when it comes to determining how an order will be satisfied, but the difference exists and must be dealt with. Conversely, a more elaborate or thorough overhaul may hold a higher value to a customer. Whether or not that customer is willing to pay extra for that value is another matter.

For the relationship to be successful for both the customer and the supplier, the specification of the service must be more clearly defined than by the regulatory definitions. The simplest way to do this is to refer to a detailed process specification for the service. This works best in component overhaul, particularly those in which there is virtually no discretion regarding the ability to rework any individual component. Here an OHM or CMM can provide step by step detailed instruction (and thereby definition) of the service. At the other end of the scale, in airframe maintenance, the "detailed" specification will often be an IRAN (Inspect and Repair As Necessary) task card that leaves virtually boundless room for interpretation. It is not practical to attempt to define all service tasks to the level of detail provided for in component overhaul. In many cases, the service should be defined by clearly explaining the principles for evaluation that the supplier uses.

Maintenance, Repair and Overhaul as Conceptual Terms

When you issue a purchase order for a service, do you know what you expect to be done – in detail? Do you know what your supplier expects to do in detail? And even if you know both of these, do you have the means to verify that it has been done?

If you are an airline, the FAA says the answers to all of the above must be yes. But the real world is far grayer than the FAA's regulations can recognize. It is often said that different FAA regional offices interpret requirements differently. It is clear to anyone who has dealt with a number of airlines that each airline interprets both regulatory and contractual requirements differently. This does not necessarily present a danger either from a safety point of view or from a business point of view. But it does cause confusion in business relationships and in regulatory compliance. That confusion is a problem.

There are many ways to run a safe and compliant airline within the framework of the regulations. To a fair degree, the regulations recognize and provide for that. There are clearly many ways to run a successful airline as well. In outsourcing, it is important that the customer recognizes that these differences exist and that their suppliers may be dealing with several customers, each with it's own requirements and expectations for what appears, definitionally at least, to be the same thing.

To move the common terms of the business away from a focus on the legal definitions that stand behind them and into the conceptual framework in which an airline operates, the customer needs to spend time educating its suppliers in its own culture. Suppliers should be taught not just the "rules" that the customer operates under, but the culture in which its employees operate. By understanding what a customer's expectations are for a repair, as opposed to what might stand up in court, a supplier can focus it's attention on satisfying those expectations. This may entail changing workscopes, it may entail changing pricing, it may entail systematic changes in the way the supplier operates, but if the changes can be made intentionally and consciously to satisfy the customer's expectations, the chances of a successful business relationship developing are greatly improved.

In its own bureaucratic fashion, the FAA's new emphasis on air-carrier surveillance of their subcontractors and of surveilling subcontractors within the context of the airline's operating systems is making this same point. But regulation and policy can only go so far in bringing two organizations into operational harmony and that is quite a bit shy of the kind of shared understanding of goals for quality and performance that I am proposing. Effective communication of the expectations of each party must begin with a framework that benchmarks the regulatory requirements. To be successful, it should then go beyond that framework by filling in the detail of the expectations of each participant. This is unlikely to happen effectively until the program participants from each company have learned about the culture of the other company.

Being a member of a team requires sharing the goal of the team. Shared goals are not enforced goals, they are agreed upon goals. In learning what each team member understands and expects, the agreement on these goals can be clear and lasting.

Internal Systems for Insuring Quality and Performance

It is a regulatory requirement that manufacturers, operators and maintainers have a quality system which qualifies and monitors suppliers. Unfortunately, this is not enough to ensure successful supplier performance. Quality systems traditionally looked at regulatory issues and little else. In recent years this has begun to change, but the changes started in the manufacturing areas of the industry and are only slowly moving into the operational areas. Supplier monitoring should involve financial monitoring of the real costs, program monitoring of the performance to schedule requirements and product monitoring of the quality of the product or service provided. A few of the larger companies in our industry have such systems; most do not.

Earlier, I discussed the motivation of cost reduction in making an outsourcing decision. It has long been convenient to “budget” quality control departments as a percentage of production department costs. This time honored shortcut leads to an immediate assumption that when a production function is outsourced, the corresponding percentage of the quality control department costs can be eliminated. Such is not the case.

When a company elects to outsource, it necessarily must restructure the methods of its quality control functions. To outsource successfully, it must also restructure the methods it uses to manage its operations including planning, purchasing, material handling and scheduling. Some of these changes may be minor, but they must all be coordinated at the outset for a successful effort. This may involve establishing a new organization just to manage the outsourced activity, or it may entail redefining a few procedures and job roles.

Whatever course this takes, the organization will have to reevaluate its cost model to encompass these changes and formalize the organizational and procedural changes to accomplish the task. These systems and resources become a part of the customer’s contribution to the outsourcing team.

Supplier Systems for Insuring Quality and Performance

When a large organization looks to outsource, it is motivated largely by a recognition that the infrastructure that it requires to do something internally is too cumbersome to allow cost effective activity. All too often however, when an organization looks to outsource, it fails to recognize that the chosen supplier must have some management systems in place which can accomplish the same ends as those of its own. And the rub here is that these systems cost the supplier just as they do the client organization.

Not everyone in the MRO business has the best interests of the industry at heart. But the bad guys really are few and far between. Most companies recognize that doing a job well is what brings customers back and most also recognize that if you don’t bring your customers back you won’t last too long. But good intentions alone aren’t enough. A supplier needs to have the ability to act on those intentions. This ability will require that the kinds of systems which will allow a quality product to be produced have been established. And it will require that the cost of those systems can be recovered.

In this industry, only a few of the suppliers have sophisticated systems for ensuring that their services satisfy the quality requirements of their customers. This is not to say that the rest don’t provide high quality services, only that the safety net for that quality may be a little thin. Until the recent merger and acquisition driven growth of major MRO suppliers (particularly in engine support), the airline customers invariably had more sophisticated systems for ensuring quality than their suppliers. That remains substantially the case even now, since most of the newly formed conglomerates have yet to integrate the operating and quality systems of their previously independent units.

In a partnership relationship, the implications for this are clear; the partner with the superior systems should contribute the use of those systems to the relationship. Air carriers have a wealth of information about the service needs of their fleet. As a rule, this is not shared with the suppliers performing the various services. Airlines also have quality assurance programs in place in their organizations, but the most common exposure that the typical supplier has with these programs is the monthly or quarterly report card that the systems generate.

At the simplest level, a customer can share the information it has with its suppliers to help those suppliers not just perform corrective actions on discrepancies that are noted, but to develop preventive policies and procedures to ensure higher levels of quality in the future. Practically speaking, in a great many cases, it would prove beneficial to both customer and supplier if the customer provided guidance and assistance to the supplier in developing internal quality systems. What can also be explored, is linking the quality assurance systems of both organizations to provide a unified method of monitoring services.

But what also should be considered by airlines, is that for many of their smaller suppliers, the ability to develop and maintain this sophisticated a quality assurance system is not going to be feasible. In cases like these, the customer can extend its quality system into the supplier's facility. While this kind of activity doesn't come without a cost, it can still be a practical way of ensuring that the quality requirements of the operator are maintained throughout its supply chain. Unfortunately, this practice directly contradicts the goal of simplification. Against expectations of eliminating internal resources, requests to extend support systems to an airline's suppliers can significantly reduce the apparent value of outsourcing. As a result, a decision to outsource can be compromised by these needs.

Working the Solution

A few companies have taken the approach suggested in this paper. They understand that their own success is linked in a very direct manner to the success of the companies upon whom they depend. These companies provide proactive guidance and support to their suppliers, or conversely, they listen attentively and adapt to their customers. These companies make compromises in what they expect from one another so that each partner in the relationship can be successful. Just as in a successful marriage, companies that build successful partnering relationships share with the partner. Information, resources, needs, limitations, concerns, problems and, of course, successes are all a part of this sharing.

The development of this concept is far from mature however. In comparison to the relationships established in manufacturing industries, MRO partnering is truly in its infancy.

The Future

Where does outsourcing go from here? There will always be traditional outsourcing relationships built around buying a service in a competitive manner. But as partnering customer/supplier relationships become more common, the groundwork will be laid for the next development in outsourcing – risk sharing. Just as manufacturers have found it helpful to reduce their capital investment and overall exposure by sharing the profits of production with suppliers, airlines may well recognize the possibility of reduced overall maintenance costs by sharing operating revenues with suppliers based on a full time commitment to supporting the maintenance of the aircraft.

The Star Alliance is heading in that direction now. The AirLiance technical services company formed by United, Lufthansa and Air Canada initially to provide spares support is likely to be the forerunner of a similar venture in MRO services. But these developments will not be limited to airline conglomerates. Existing MRO providers will enter into the mix as well. In some cases, the suppliers may be bought in part or outright by their customers. But the larger suppliers will be able to stand on their own and offer a joint venture kind of support that many carriers will probably prefer.

Today, such a relationship seems a bit far-fetched. Revenue sharing (outside of the employee plans) for the airlines is probably quite a ways off and may initiate through agreements with aircraft lessors rather than with service providers. It may also arise in smaller and start-up operations long before the established carriers acknowledge its potential (although the higher risk to the supplier may make these relationships unfeasible). But ultimately, it is an idea which will be tried and perhaps tried successfully.

[i] The survey was conducted by Lufthansa Technik of 800 airline managers as reported in the August 21, 1998 issue of *Aero Safety & Maintenance*. Sammaries of the study are available from Lufthansa Technik Press and Public Relations Department who can be contacted at the LHT website www.lufthansa-technik.com.

[ii] The variety of the mix of these objectives was highlighted in a recent study conducted by Ladish & Co. as reported in the August 10, 1998 issue of *Aviation Week & Space Technology* magazine, in which 90 industry suppliers identified their single most important objective. In this study, increased profits was cited by 16% (although an additional 24% of the responses were variations on this goal), growth was cited in 22% of the responses and increasing customer satisfaction was cited in 27%. Despite the wide range of responses to this question, these same companies overwhelmingly cited long term agreements with their own suppliers as critical to their long term success.