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A NEW VIEW ON THE MAKE-VERSUS-BUY ANALYSIS

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Keep your eyes on the prize: In business, it is easy to lose focus. This occurs due to full meeting schedules, the busy nature of certain jobs and tasks, impending deadlines, and everyday life. Consequently, it is understandable that the direction of the organization can sometimes become displaced from our thoughts. The step-by-step divergence from the mission, vision, and goals can occur through various day-to-day, or even minute-to-minute, activities that distract the organization, which leads to the negative trend of a "death spiral" (i.e., the point of no return that prevents the organization from realizing its goals). In this case, outsourcing can produce this negative effect on an organization.

The basic make-versus-buy analysis is simple to understand but sometimes difficult to implement as there are direct and indirect costs associated with the overall decision. These include labor, material, and overhead. Many companies utilize the make-versus-buy analysis calculation, which can be found in accounting books and various websites, but this is short-sighted. There are other issues that go beyond these stated costs. For many organizations, completing the work internally yields many advantages that are not reflected in the standard make-versus-buy analysis. Another factor to consider is the timing of the accounting treatment of the make-versus-buy analysis, which can lead to over- or underapplied indirect cost (overhead). Please note that this is not limited to manufacturing organizations — this is an issue for service organizations as well.

The focus of this article is to identify the issues beyond the basic make-versus-buy analysis and other complications that occur with absorption cost accounting and outsourcing (purchase) of the oper-

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EXHIBIT 1 Baseline Scenario

Baseline Scenario			
Description	**Baseline Hours**	**Baseline $**	**% Allocation**
Total Fixed Costs		$ 2,000,000.00	
Total Applied Hours		10,000.00	
Overhead Rate		$ 200.00	
Job 1	1,000.00	$ 200,000.00	10.0%
Job 2	2,000.00	$ 400,000.00	20.0%
Job 3	3,000.00	$ 600,000.00	30.0%
Job 4	4,000.00	$ 800,000.00	40.0%
Total	10,000.00	$ 2,000,000.00	100.0%

ation's internal production. Examples will provide a clear illustration of the possible scenarios of this complex accounting application.

The basics for make-versus-buy analysis

The basic make-versus-buy analysis is fairly straightforward: Compile all the current costs (variable and fixed costs) and compare them to the total cost for outsourcing. Some examples of current costs include labor, material, and overhead associated with the product or services in question. Other examples include one-time costs and recurring costs. The scope of this analysis can be for the current year or a multiyear contract. Preparing and analyzing make-versus-buy analysis spreadsheets typically calculate a basic financial return, but be warned — there are other issues to consider.

The death spiral of outsourcing

There are several factors outside of the traditional make-versus-buy analysis to consider when utilizing outsourcing for current operations. As we explore the issues involving outsourcing, the goal of the organization is to maintain performance at the same productive level as before the tasks were outsourced. There are several factors that challenge the assumption that outsourcing doesn't affect performance. My argument is that outsourcing is a gradual loss of productivity, or a scope creep. This performance loss is not solely attributable to the initial decision to outsource; rather, it is a cumulative effect over time. As we move decision-by-decision to outsource specific work, the organization's ability to perform tasks becomes more difficult at a specified point in time when expertise and efficiencies are lost. This is due to employees not performing the tasks routinely and thus losing the ability to perform efficiently at high-volume levels. This can also be observed with employee turnover during this decision-making process as high performance leaves with the lost employee. Therefore, over time, outsourcing can lead organizations into a death spiral effect when it comes to specific tasks and productivity, which jeopardizes the organization's ability to operate in the future.

The following sections introduce several examples that validate this argument of the death spiral effect in action.

Organization's mission, vision, and goals. When reviewing the function that is being considered for outsourcing, are we comparing the function to the organization's overall mission, vision, or goals? Is this a short-term fix for costs? When describing our organization's direc-

EXHIBIT 2 Outsourcing Decision with Growth

Outsourcing Decision with Growth			
Description	**Hours**	**Total $**	**% Allocation**
Total Fixed Costs		$ 2,000,000.00	
Total Applied Hours		10,000.00	
Overhead Rate		$ 200.00	
Job 1	-	$ -	0.0%
Job 2	3,000.00	$ 600,000.00	30.0%
Job 3	3,000.00	$ 600,000.00	30.0%
Job 4	4,000.00	$ 800,000.00	40.0%
Total	10,000.00	$ 2,000,000.00	100.0%

tion, does outsourcing signal internally to the organization that critical areas cannot be produced better than our competition? Can this produce moral or productivity issues in other aspects of the organization? Are the mission, vision, and goals in jeopardy of not being fulfilled? Viewing outsourcing in this way can indicate if the organization's future is at risk. A first step toward understanding the risk is listing the tasks that comprise the directional critical path of the organization to verify if outsourcing affects this effort. More analysis is needed by management to understand why this can occur and what effect it will have beyond the current quarter or year.

Signal to competition. Outsourcing can also serve as a signal to competitors about internal processes. By outsourcing, the organization is admitting that this process cannot be completed internally at a competitive value. Additionally, this decision can reveal even more information about the organization's process. By exposing its lack of competitiveness for a particular function, the organization creates an opportunity for the competition to pinpoint and exploit weaknesses in the organization's overall approach and development of its product and services.

Degradation of critical skills. Skill sets and understanding of the process are another resource that can be lost through outsourcing. Over time, the organization may lose the capability to replicate such processes and functionality within the organization. If this is a critical skill set, realizing the organization's mission, vision, and goals can be compromised and harder to obtain, and the learning curve to recover these lost skills may become a competitive disadvantage. Losing a skill set can take place gradually or all at once with one outsourcing decision. For our metrics, this is a leading indicator of outsourcing acting as a death spiral of sorts, preventing the organization from obtaining its goals, based on the lack of necessary skills and capabilities that were lost due to the outsourcing decision.

Crowding-out effect. Alan Greenspan discussed the issue of the "crowding-out" effect after the financial crisis of 2008. The basic argument was that the funds allocated to the banks to correct for the crisis were not distributed back into the economy for growth, as the money was needed to stabilize the banks and therefore was not used to lend back into the economy.[1] This can also occur with skilled resources, either people or machines. As the race to complete the work continues after outsourcing, the new sequencing of resources becomes a priority.

If there is growth in the organization to replace the lost hours from out-

EXHIBIT 3 Outsourcing Decision Without Growth

Outsourcing Decision without Growth			
Description	**Hours**	**Total $**	**% Allocation**
Total Fixed Costs		$ 1,800,000.00	
Total Applied Hours		9,000.00	
Overhead Rate		$ 200.00	
Job 1	-	$ -	0.0%
Job 2	2,000.00	$ 400,000.00	22.2%
Job 3	3,000.00	$ 600,000.00	33.3%
Job 4	4,000.00	$ 800,000.00	44.4%
Total	9,000.00	$ 1,800,000.00	100.0%

sourcing, then the overall effect of the application of indirect cost is minimal. If, however, there is no growth to occupy this open capacity of resources, then a reprioritization of value (restructuring) occurs. This can trigger different results for organizations, including laying off employees and selling equipment, different costs of labor applied to jobs based on usage before outsourcing, and different indirect costs applied to jobs based on this reprioritization of value. For most organizations, a reprioritization of value is not necessary with one small instance of outsourcing. The overall impact might be undetected by accountants. As seen in many organizations, directives from other parts of the organization or by management become the trend, and this small move becomes larger over time. This is when the crowding-out effect will be noticed and the death spiral may begin.

Time-lag effect. The time-lag effect of reprioritization of value is also a concern. The accountant must know that the restructuring is occurring; being aware of the situation will prompt the accountant to verify if this action will have any noticeable effect on the absorption rates, which can be accomplished through various what-if analyses of the current and future conditions under the proposed outsourcing action. The second issue is when the reprioritization will occur and how will it be communicated.

Communicating the date of the outsourcing decision is necessary for the accountant to implement any absorption rate adjustment. If the decision is not communicated, the accountant will be delayed in adjusting the absorption rate. In this scenario, it could take months for the accountant to observe the outsourcing decision or receive confirmation through continuous follow-up communications.

Applying the action of outsourcing is important to avoid any divergence from the absorption calculation. Knowing the date of implementation will allow the accountant to know when to apply updated absorption rates if needed. If the accountant doesn't implement the decision on time, an absorption application lag will occur when compared to the analysis. This results in either over- or underapplied overhead, which must be resolved. In certain industries, this can become a significant issue, especially with specific contracts (e.g., the Department of Defense).

Identification of fixed costs. The identification of fixed costs and applying them to absorption allocation is difficult. There are many deterrents to eliminating fixed costs from an organization,

EXHIBIT 4 Scenario 1

Scenario 1			
Description	Scenario 1 Hours	Scenario 1 $	% Allocation
Total Fixed Costs		$ 1,850,000.00	
Total Applied Hours		9,000.00	
Overhead Rate		$ 205.56	
Job 1	-	$ -	0.0%
Job 2	2,000.00	$ 411,111.11	22.2%
Job 3	3,000.00	$ 616,666.67	33.3%
Job 4	4,000.00	$ 822,222.22	44.4%
Total	9,000.00	$ 1,850,000.00	100.0%

including multipurpose use by other departments, labor contracts, costs already incurred, and basic infrastructure requirements. When developing the analysis, an action plan that clearly identifies and eliminates fixed cost is a necessity for implementation.

When the fixed costs cannot be completely eliminated as stated in the make-versus-buy analysis for outsourcing, the applied overhead requires the cost to be reapplied for the overhead calculation. Because the outsourcing occurred and some portion of the fixed costs is still present, applying the fixed cost back to the outsourcing activity is appropriate as it's directly related to the activity (i.e., direct expense). This is a better solution than trying to reapply the cost using the same absorption method. Since the outsourced activity doesn't have the activity (hours) for applying overhead (assuming the absorption calculation is based on hours or something that is lost during the outsourcing decision), the cost will be distorted. Using a new absorption method during the year to adjust for the decision is also a poor solution since the year will have to be restated for the new calculation formula, or it will lose consistency in month-to-month or year-to-year analyses. In either scenario, a direct charge into the outsourced job is the best application of the remaining fixed cost that cannot be reapplied.

Accounting treatment of the make-versus-buy analysis

There are several issues that affect the accounting treatment of the make-versus-buy analysis. The analysis for this example concluded that it was less costly to outsource the process than produce internally. For absorption costing, hours are used as the allocation method. In the case of absorption or activity-based accounting for indirect cost, the effect is similar, as the loss of activity used in the calculation formula is lost in all scenarios. This section will examine several of the possible scenarios that can occur for the accountant to complete the analysis.

Baseline scenario. Before the make-versus-buy analysis, the accountant is required to understand the baseline scenario, or the current state. As shown in the baseline scenario in Exhibit 1, our overhead area under review contains the following: $2,000,000 in fixed costs, 10,000 applied hours, and four jobs with specific hours for each, ranging from 1,000–4,000 hours (see Exhibit 1).

Outsourcing decision with growth. In this simple scenario, all outsourced hours will be replaced by growth. This is a cost-neutral decision based on applied over-

EXHIBIT 5 Scenario 2

Scenario 2			
Description	**Scenario 2 Hours**	**Scenario 2 $**	**% Allocation**
Total Fixed Costs		**$ 1,850,000.00**	
Total Fixed Costs	Applied Job 1	$ 50,000.00	
Total Fixed Costs	Applied Jobs 2–4	$ 1,800,000.00	
Total Applied Hours		9,000.00	
Overhead Rate	Applied Jobs 2–4	$ 200.00	
Job 1	-	$ 50,000.00	2.7%
Job 2	2,000.00	$ 400,000.00	21.6%
Job 3	3,000.00	$ 600,000.00	32.4%
Job 4	4,000.00	$ 800,000.00	43.2%
Total	9,000.00	**$ 1,850,000.00**	100.0%

head with no change in the overall cost structure. In the following example, the fixed cost associated with outsourcing is being used in the growth of hours in other work. The overall internal effect is a reduction of 1,000 hours and $200,000 in fixed (indirect) costs.

In the example of an outsourcing decision with growth, the job being outsourced is identified as Job 1. Since Jobs 2–4 will experience an increase in hours due to growth, the lost hours from Job 1 will be transferred into Jobs 2–4. In the example, Job 2 experienced the entire growth of hours, from 2,000 hours to 3,000 hours. The fixed costs associated with the outsourcing will remain since it is needed to produce the 1,000 hours associated from the increase in Job 2. Thus, there is no bottom-line change for cost and hours, but rather a *transfer* of hours and applied overheard among Jobs 2–4. In most occurrences, this is not an option, as the decision to change is based on overall cost reduction and not resource allocation or capacity (see Exhibit 2).

Outsourcing decision without growth. If the decision is based on cost without replacing the hours with growth, a cost distortion can occur due to the calculation of the overhead. When the decision is made to change, the fixed costs must be eliminated from the calculation to place the entire organization's applied overhead at the same total cost as before. If the fixed cost is not eliminated, the fixed overhead will apply the fixed cost to the remaining activities for overhead allocation, which will distort the costs of all products affected by the overhead rate.

In our example of an outsourcing decision without growth, the overall internal effect is a reduction of 1,000 hours and $200,000 in fixed costs. This is identified as Job 1. Jobs 2–4 will remain at the same levels after the decision to outsource is made. As we implement the decision, all of the hours and dollars are removed without error. The allocation of fixed costs in total is the same as in the baseline scenario, or pre-outsourcing. Note that the allocation percentage of cost is different in these scenarios since the hours from Job 1, when compared to Jobs 2–4, are not a linear comparison. This is typical in most organization analysis decisions (see Exhibit 3).

Scenario 1

Our example becomes more complex if some or all of the fixed costs cannot be

removed from the overhead location. In Scenario 1, we cannot eliminate $50,000 of the $200,000 of fixed costs associated with the outsourcing decision. Since all the hours are removed, how does the remaining fixed costs of $50,000 get applied to our jobs? In Scenario 1, the costs are left in the allocation pool of fixed costs and then reallocated to Jobs 2–4 since they have hours to apply against the cost. As we can see by the result, Jobs 2–4 receive higher costs than in the baseline scenario. This is not an accurate measure of the activity. A recalibration of fixed costs needs to be computed to ensure that Jobs 2–4 do not receive higher costs due to the outsourcing decision. See Exhibit 4 for Scenario 1.

Scenario 2

In Scenario 2, we corrected the outsourcing decision for the nonreduction of fixed cost (i.e., $50,000) by directly applying the amount to Job 1 since this is specific to the job and not a general cost to be shared among all the other jobs in the overhead pool. This will make the fixed costs shared by Jobs 2–4 the same as in the baseline scenario. See Exhibit 5 for Scenario 2.

Improvements in make-versus-buy analysis

This analysis has identified several areas in every make-versus-buy analysis that can improve the decision-making process. The following items should be added to all make-versus-buy analyses to ensure the organization is optimizing the decision process:

- the mission, vision, and goals;
- a check box that indicates whether the decision will have an effect on the mission, vision, and goals;
- a list of costs and benefits to allow for cost identification;
- communication of an action plan to identify fixed costs and a timetable for implementation;
- approval by accounting that the decision can be accomplished;
- management's authorization to implement; and
- a record of lessons learned in a log for future improvement.

Adding the section for the mission, vision, and goals of the organization to the top of the analysis keeps everyone on the same page about the organization's purpose. This is a reminder to consider and understand the organization's direction when making decisions.

The check box that indicates if the decision has an effect on the mission, vision, and goals signifies that the team is in agreement on the decision's impact. This also signifies if any skills needed by the organization will be negatively impacted by the decision. In a macro view, this box represents the decision-making team acknowledging their responsibility and the reviewers' verification of whether or not the decision will affect the organization's ability to be successful.

A SPECIFIC LIST OF THE COSTS AND BENEFITS WILL ALLOW FOR THE ACCOUNTING TEAM TO KNOW WHERE TO FIND THE INFORMATION, ITS IMPACT ON THE GENERAL LEDGER, AND HOW TO IMPLEMENT THE DECISION WITH PROPER ACCOUNTING.

A specific list of the costs and benefits will allow for the accounting team to know where to find the information, its impact on the general ledger, and how to implement the decision with proper accounting. This includes recurring costs, nonrecurring costs, and direct and indirect costs. A marginal cost approach is used to identify what is needed for the decision to purchase rather than produce internally.

Communication of the action plan will alert the accountant during the decision process to allow for proper adjustment to the overhead rates. This can be done through email or other automated processes once the analysis is performed. Embedding the accountant in the decision-making process will provide proper perspective of identifying the cost and any adjustment for applying overhead.

Final approval by accounting and management assigns responsibility for everyone's actions. The accountant needs to approve the identified costs as well as the application of the costs after the pur-

chase decision. Management also needs to approve of the purchase decision to verify the analysis and implementation of the decision.

Lastly, recording the details of the decision and the subsequent lessons learned in a designated log will promote continuous improvement with the process and result in better decision-making. This is a critical point for the organization. By implementing processes for improvement in nontraditional areas like the make-versus-buy analysis, a culture of continuous improvement is established and allows for other aspects of the organization to benefit from this process.

The log will provide guidance for future analysis on tasks that are difficult to accomplish, offer improvements to the standard work instructions for the analysis, and assist decision-makers with areas of concern. As the organization tracks the successes and failures of the decisions with actual costs, the verification of the assumptions, along with the details of the costs and benefits, will provide the necessary information for continuous improvement and optimal decision-making.

Reviewing the actual results of outsourcing with the original analysis will improve the decision-making accuracy in the future. This includes:

- the understanding of the organization's mission, vision, and goals;
- identification of critical skills;
- communication of outsourcing implementation;
- application of absorption calculations; and
- identification of fixed costs.

Conclusion

The make-versus-buy analysis is a major factor in today's business decisions. By not adhering to the organization's mission, vision, or goals, singular or cumulative decisions can limit the organization's potential for achievement. A cost identification and elimination action plan is required to fully comprehend the complexity of the analysis. Communication is needed to validate the identification of the costs, the ability to remove the costs, and the timetable for cost removal for proper accounting treatment of the decision. With accounting's approval of this cost verification, management will then be able to give their own approval in order to make the best decision for the organization. Keeping track of lessons learned will assist with improving the process to eliminate any errors or miscalculations within the analysis. I hope this provides a new perspective for your outsourcing decisions and allows the process to focus on the "prize" and avoid the outsourcing death spiral. ■

NOTES

[1] Greenspan, A., Activism, *International Finance* 14, no. 1 (2011): 165–182.