Just the Facts: Sound Financial Decision Making Utilizing Make-or-Buy Analysis

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Objectives

• Articulate the benefits of strategic and tactical planning.
• Discuss how make versus buy decisions fit within the organization’s strategic plan.
• Describe the tactical decision-making model.
• Evaluate the variables that should be considered in a make versus buy decision.
• Discuss various interventions to reduce reference laboratory utilization.
“Around 90% of leaders or managers are tactical and only about 10% are strategic.”

-Bart Gragg, Blue Collar University

Tactical Leaders are fire fighters. Strategic Leaders are fire preventers.

Benefits of Strategic Planning

1. An overarching direction or roadmap for the organization.
2. Order in the midst of chaotic times.
3. The information and analysis needed to evaluate situations, opportunities, and strategies.
4. A process that educates managers and other staff on the issues and choices confronting the organization.
5. Motivation for staff.
Planning Pyramid


Make versus Buy at the Strategic Level

FOR IMMEDIATE RELEASE
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Date
August 19, 2014

Miller-Keystone Blood Center partners with QualTex Laboratories

BETHLEHEM, PA – Miller-Keystone Blood Center (MKBC), the exclusive blood provider to 26 hospitals in Eastern Pennsylvania and Western New Jersey, has announced they will be partnering with QualTex Laboratories, San Antonio, Texas. As part of the partnership, MKBC will send samples of the blood collected from volunteer blood donors to QualTex Laboratories for infectious disease testing beginning on September 8, 2014.

The Tactical Decision-Making Process

1. Identify and define the problem.
2. Identify alternatives as possible solutions to the problem, and eliminate alternatives that are not feasible.
3. Identify the predicted costs and benefits for each alternative. Eliminate the costs and benefits that are not relevant to the decision.
4. Compare the costs and benefits for each alternative, and relate each alternative to the overall strategic goals of the firm and other important qualitative factors.
5. Select the alternative with the greatest benefit which also supports the organization’s strategic objectives.
Make vs. Buy Variables

a) Consider the quality of the tests or services offered by the outside source of testing,

b) Compare the cost of buying the test with performing it in-house,

c) Determine the medically necessary turnaround time,

d) Evaluate consultation and clinician review capabilities, and

e) Estimate the problems with cost and the logistics of sample transport.
Criteria for determining if excess capacity exists in your lab to add new workload.

### Equipment

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Incomplete utilization of equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Duplicative equipment items not used to full capacity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• “Walk-away” features</td>
<td></td>
<td></td>
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<tr>
<td>• Equipment is highly reliable with excellent repair services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Equipment is adaptable to adding/deleting from menu for low vol./high cost tests</td>
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</tbody>
</table>

### Human Resources/Consultation/Test Interpretation Skills

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Expert medical knowledge/experience is on site (pathologists)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Expert scientific knowledge/experience is on site (scientists)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Expert technical knowledge/experience is on site (technologists)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Expert information systems expertise/experience is available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Expert business/billing expertise/experience is available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Idle capacity exists in latter half of day shift (technical)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Idle capacity exists on evening and night shifts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The skill mix form the workforce is high/varied</td>
<td></td>
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</tr>
</tbody>
</table>
Criteria for determining if excess capacity exists in your lab to add new workload.

<table>
<thead>
<tr>
<th>Information Systems / Quality / Teaching &amp; Research</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The information system is adaptable to modern connections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Test turnaround time is exceptionally good for the 25 most commonly requested tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Bar code and other time-saving techniques are used to access, process, inventory, and report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The laboratory's quality is consistent and regarded highly in the community, is defensible and has been recognized by accepted accrediting bodies.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The laboratory offers highly-specialized tests needed by teaching/research physicians</td>
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</tr>
</tbody>
</table>

Personnel (Labor)

• Skill level of lab staff?
• Number of adequate lab staff?
• Will Maintenance (BioMed Repair) staff be used to implement and maintain equipment?
• Will IT staff be used to implement the system and build LIS interfaces?
Labor

• Direct costs
  – Time to set up and run test ÷ total # of patients tested within that test run.

• Personnel to enter and/or verify reference lab results into the LIS.

Labor

• Indirect costs
  – Specimen collection costs.
  – Specimen transportation costs.
  – Supervisory costs, QA costs, LIS costs, etc.
  – Labor costs to establish supply contracts and purchase acquisitions

• Labor savings?
  – Attrition
  – Deployment
Equipment

- Buying new equipment?
- What is the projected test volume?
- Are back-ups needed?
- Buy, lease, reagent rental?
- Do you have enough space?
- What is the cost of depreciation?
  - Depreciated expense is divided by the # of reportable results over a defined time period, usually 5 years for a lab analyzer.

Materials (Consumables)

- Are reagents readily available?
- What is the reagent cost per test?
- Calculate reagent cost per test and convert to reagent cost per reportable result by incorporating projected cost of:
  - Calibration
  - Controls
  - Repeat analyses
  - Wastage with rejected runs
  - Proficiency testing
Service

Service cost per reportable result = $x \div y$

$x = \text{cost of service per defined period}$

$y = \# \text{ of patients processed per piece of equipment}$

• What is the frequency of test performance?
• Availability of reference lab service.

Service

Does clinical (or operational) needs outweigh costs?
Economics

• What is already on hand? What must be bought?
• How often will the assay have to be performed?
• Validation and training costs?

Longevity

ONE DOES NOT SIMPLY
RUN A CONTROL

MY SOURCES?
ALIENS.
Time Frame

• Does the lab have time to implement a new assay?
  – Write SOPs, complete validation, develop reference ranges, enroll in proficiency testing, train and competency assess staff, configure LIS, etc.
  – Can the assay be added to an existing testing platform?

Projections
Using marginal revenue and cost concepts to expand test production

<table>
<thead>
<tr>
<th>Quantity per Day, Q</th>
<th>Total Cost, TC</th>
<th>Price per Unit or Average Revenue, AR</th>
<th>Total Revenue, TR (AR x Q)</th>
<th>Average Total Cost, ATC (TC/Q)</th>
<th>Marginal Cost, MC ΔTC/ΔQ</th>
<th>MR &gt; MC?</th>
<th>Marginal Revenue, MR ΔTR/ΔQ</th>
<th>Net Revenue, NR TR-TC</th>
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<td>$10</td>
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</tbody>
</table>

In a cost containment environment...

- Analyzer lease for $100,000 per year and reagent and supplies for $10 each test (V)
- The test can be performed at $20 per by reference laboratory
  - $100,000 + $10V = $20V
  - $100,000 = $20V - $10V
  - $100,000 = $10V
  - 10,000 = V for break even in one year*
- If expected volume <10K/yr = send it out
- If expected volume >10K/yr = let’s do it!

*assuming it can be done within existing space and personnel capacity
Reference Lab Utilization

- Increase pathology visibility.
- Oversight and monitoring of selected tests.
- Internal laboratory reviews.
- Add test ordering rules and flags in the Information System.
- Implement Quality System monitors.

Conclusion
References

• Photos courtesy of Armed Services Blood Program, https://www.flickr.com/photos/militaryblood/