Pricing Long Term Services and Supports for Profitability
Professor Victor Tabbush

About this Session

This session provides the rigorous yet practical approaches to pricing long-term services and supports. Due to recent policy and payment reforms, community-based organizations that have traditionally provided long-term services and supports on a grant or philanthropic basis, now have opportunities to sell these services on a commercial basis to health plans, hospitals and other parties in the medical sector. For many of these organizations selling their services in order to generate maximum net income is an unfamiliar activity. However, there are many pricing models and approaches that have been deployed in other sectors from which CBO's can learn. This session teaches profitable commercial pricing strategies, but does so in relevant context that recognizes the nuances and complexities of the health sector.

Learning Objectives

Here are the learning objectives for the session:

1. Recognize the specific policy changes that have created business opportunities to sell LTSS on a commercial basis
2. Enumerate the elements of the marketing mix
3. Recognize that the CBO's motivations will influence the choice of price
4. State at least four different units in which the price of LTSS may be stated
5. Describe the spectrum of pricing control
6. State the four scenarios of pricing control
7. State the equation for profit
8. Draw the revenue function under fee-for-service pricing
9. Draw the revenue function under capitation
10. Define and differentiate among sunk, fixed and variable costs
11. Draw a typical cost curve as a function of the volume of services provided
12. Conduct breakeven analysis when the price is given
13. Decide whether to accept a "take it or leave it" offer or not
14. Define what is meant be full cost recovery
15. Explain the advantages of converting indirect costs into direct ones
16. Articulate how the band of mutually beneficial prices is identified

17. Define what is meant by value creation and its relationship to the pricing band
18. Demonstrate how a CBO's competitor's price restricts the range of prices that it can charge
19. State at least two favorable conditions for a CBO to charge a higher price
20. Recognize that price and service volume are negatively related when price is controlled by the seller
21. Explain the negative consequences of cost-plus pricing when the seller can set price
22. Demonstrate that the optimal price when the seller can set it is where contribution to profit is highest
23. Identify the necessary conditions to deploy price discrimination successfully
24. Explain how versioning overcomes difficulties in using overt price discrimination.
25. Stating the conditions under which loss leadership pricing may make sense.
26. Define what is meant by limit entry pricing.
27. Apply the learning curve and its implications for pricing.
28. Define what is meant by price-based costing and the context where it is applicable.
29. Use value analysis as a tool to achieve balance between component cost and contribution to value.
30. Recognize that costs can be reduced while outcomes improved if value analysis is used properly.

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A. Introduction

Appropriate strategies for CBO's to price their services are urgently needed due to changes in the organization, financing, and delivery of health care. These changes are providing new opportunities for CBO's to market their services.

1) New business opportunities for CBO's

In Colorado the Accountable Care Collaborative, the core delivery system for the state's Medicaid beneficiaries, and an overall emphasis on payments for value have opened the eyes of health plans to the potential economic benefits that CBO's can deliver. Outcomes from LTSS offerings can lower utilization of medical services and improve care quality and provide an economic return to medical entities. Another development that has created new business opportunities for CBO's is the Hospital Readmissions Reduction Act that penalizes hospitals for excessive 30-day readmissions. If CBO's can demonstrate ability to reduce these readmissions, they are in a good position to market their services.

Since hospitals and health plans have limited experience with providing LTSS, it is likely that the medical sector will turn to the market and purchase them, rather than provide them internally. But when a CBO sells its services, and a hospital or health plan purchases them, the services must be priced.

2) The marketing mix

When a CBO goes to market, the price that is set must be consistent with the three other elements of the marketing mix, or program. The marketing mix consists of four related P's – product, meaning creating value: promotion – meaning communicating the value; place – meaning delivering value through the appropriate distribution system; and price – meaning capturing the value that has been created.

Price is powerless to capture value from the buyer unless the organization provides, communicates, and delivers that value. Correspondingly, when a CBO creates greater value and communicates it more effectively, the power of price to capture value from the buyer is increased. It should be quite clear that the four P's must work together in concert.

3) Different pricing motivations

What does, or should, a CBO aim to do when it sets about pricing its services? If its pricing strategy is strictly driven by its mission, that could mean giving its services

away, thereby allowing unfettered access to those in need them. Clearly, that approach to pricing is not sustainable. Therefore, economic aspects must be considered. Sometimes maximizing market share is suggested as the pricing goal: that is not appropriate because the pursuit of that goal can be unprofitable; you can basically give your service away and attain a high share of market, but will lose money in the process. Maximizing the profit margin – meaning the difference between the unit price and cost is also wrong since it takes no account of the volume that will be sold. In fact, maximizing the profit margin may mean selling just one unit to the buyer willing to pay the most! And maximizing total revenues, the top line, ignores what happens to costs. It is the difference between revenues and those costs, the bottom line that needs to be maximized. That difference is called profit or net income. In this session, I assume that CBO's are driven by the profit motive in the development of their pricing strategy. But a caveat is in order: we are speaking here about long run profit maximization: in making pricing decisions, the organization should take a long-term perspective and account for the future implications of its current decisions.

Is profit maximization inconsistent with the mission of a not-for-profit organization? I do not believe so. You are I am sure familiar with the expression "no money no mission" – meaning that without revenues an organization cannot be sustainable and fulfill its social purposes. And the more money it has, the greater its ability to further its mission. In a real sense, being profit driven can promote both the mission and the bottom line of the organization.

4) Price per unit: the units vary

When the word "price" is used, rarely is there mention of what exactly is being priced. That is because it is tacitly understood. When we buy eggs at the market, we know that the price is for a carton of a dozen eggs. When we buy a ticket for a series of five concerts, the price charged is for the season pass, and not for an individual concert. In health care, it is often more complicated; we must always ask what is the unit that is being priced? Because often it is unstated and unclear!

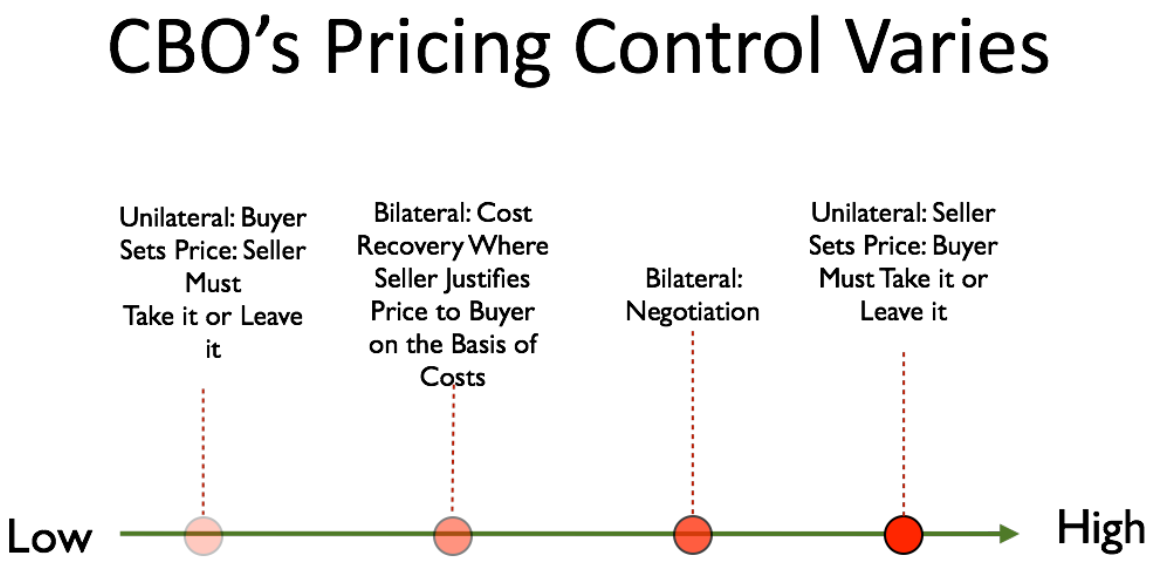
There are many possible units in the health arena:

- The price could be for each unit of service – called fee for service pricing
- The seller could charge a certain amount per person with the volume of services per person being unspecified. Does that sound like capitation? Indeed it is exactly that!
- The seller could charge per day – as hospitals sometimes do. This is called per diem pricing

- The seller, let's say a hospital admitting a Medicare patient, could charge a certain amount per case. Sound like the DRG system? Diagnostic Related Groups? Correct!
- There is another possibility where the seller sets a price for each unit of performance. For example, employees may be paid on the basis of their productivity. We are not there yet, but in health care, there is a movement towards paying for quality and performance – outcomes if you will - rather than for services.

In this session the context I will use will be either fee for service, or capitation pricing, the two most relevant payment systems for a CBO.

5) The spectrum of seller's pricing control



We must recognize that the price that a CBO receives for each unit of service sold to a health plan, hospital or other buyer is heavily dependent on the degree of control it possesses over price setting. In this session I will distinguish among four control scenarios. Think of a spectrum of control with the CBO's degree of control on the horizontal axis. All the way to the left corresponds to zero control for the CBO seller; here the buyer is in total control. That extreme case I call **unilateral buyer control**; here the buyer sets the price, not the seller; the seller then must decide to accept the given price or not.

All the way to the right on the spectrum, we have a scenario where the seller is in total control. This situation I call **unilateral seller control:** here the **seller** sets the price, not the buyer; the buyer then must decide to buy or not at that price.

In between these extremes we have two intermediate scenarios where control over price setting is shared between the buyer and seller. These contexts, cost recovery pricing and pricing through negotiation, are ones where the control is bilateral or divided. It is crucial to understand what the context or scenario is for pricing as the strategies and results are very different in each. In this session, I will provide guidance for your pricing strategies for each pricing context. In the next section I will introduce some basic definitions that will provide some foundations for our discussion.

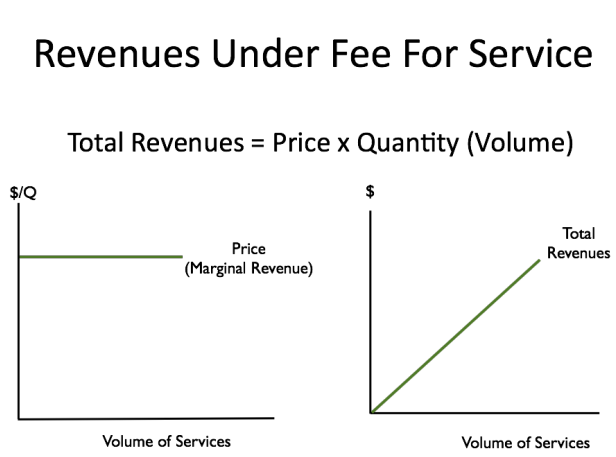
B. Revenue and cost basics

1) Definition of profit

Profit, or net income in the non-profit world, is defined as total revenues minus total costs. Profit is the "bottom line" that I assume we are attempting to maximize in the setting of our price. First, let's take a look at the revenue side.

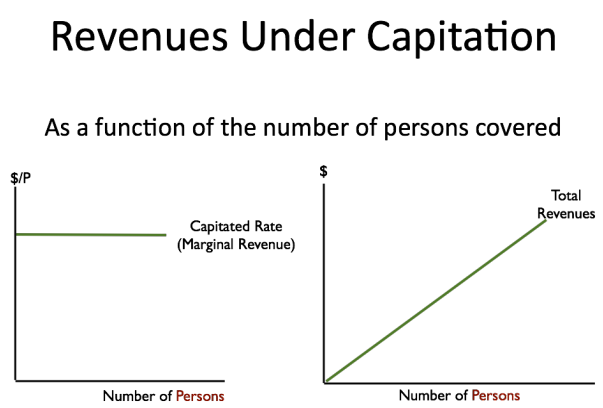
$$Profit = Revenues - Costs$$

2) Revenue functions



Under fee-for service pricing, a uniform price for each unit of service is established. The price level is illustrated by the height of the price, or marginal revenue, line in the left panel. On the vertical axis we are measuring the price per unit. For each additional unit of service sold, the seller receives that amount of added revenue. Hence the term **marginal revenue: m**arginal revenue is equal to the price. On the panel on the right, the vertical axis is labeled **total revenues**. Total revenues are equal to price per unit multiplied by the number of units sold. Total revenues rise proportionally when volume, which is measured on the horizontal axis, expands.

Under capitation, revenues are fixed, irrespective of the degree of service utilization. Thus, the total revenue line with respect to the volume of services provided is horizontal at the level of the capitated rate. That rate is frequently stated as the number of dollars per member per month. Providers do not receive more revenue for providing more services. Marginal revenue is zero under capitation. However, a capitated provider would receive more revenues if it agreed to cover more persons. Now let us turn to the cost side of the equation where I will explain some important distinctions.



3) Cost types

You cannot price profitably unless you understand the nature and magnitude of your costs. Costs come in three varieties: sunk, fixed and variable costs. I will define them in turn.

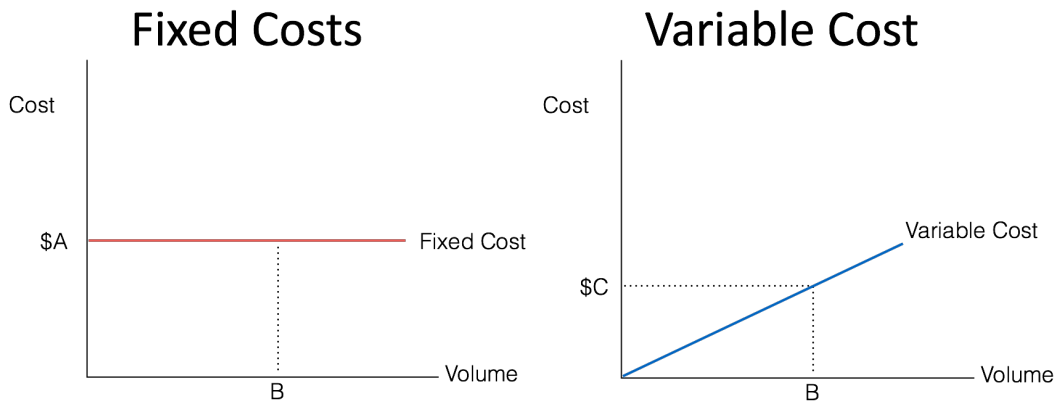
A sunk cost is an expense that has been incurred by the seller <u>already,</u> and cannot be avoided nor will change no matter what price the seller charges. Let me provide an example: Supposing a CBO with existing operations is assessing its costs of a potential new commercial contract with a health plan. The expenses for the building lease, the CEO salary and property insurance have either already been paid or committed to. Regardless of whether the contract is signed or not, these expenses will be incurred. Therefore, they are <u>not</u> costs that are tied this contract, and therefore are irrelevant in assessing the terms of contracts. Remember: do not let sunk costs, or bygones, influence future decisions!

Sometimes a fixed and a sunk cost are confused with each other. They are different. While a sunk cost is fixed, a fixed cost is not sunk, until such time as it is actually incurred. "Fixed" means the cost remains at the same level regardless of volume sold. A fixed cost of a contract, such as having to incur the expense of a program evaluation, will be a necessary <u>additional</u> expense for accepting the contract. But, irrespective of how many services are delivered under the contract terms, the legal expense would the same. A fixed cost is a relevant cost in assessing the terms of a contract because it can be avoided if the contract is not signed.

Now for the third type of cost – variable cost. A variable cost is one that rises continuously along with the volume of services provided. For example, if the contract calls for the CBO to make at-home visits to clients, a variable cost would be the gasoline costs of the social worker. The more visits, the greater this expense; it varies with volume. A variable cost is clearly relevant in evaluating the terms of a contract.

4) Cost functions

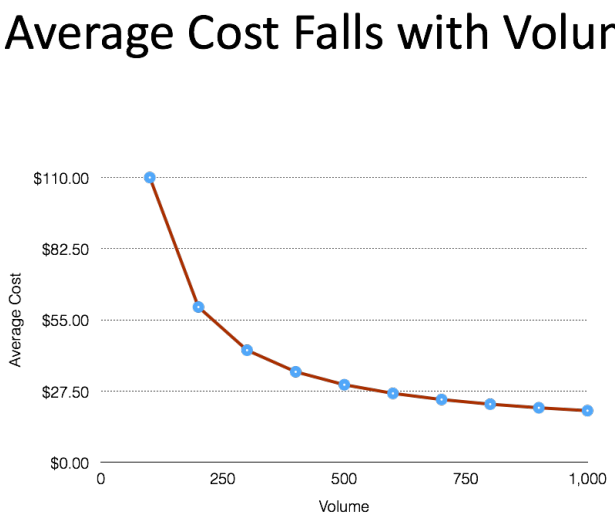
The various cost functions are graphed here - total costs as a function of volume. Notice that a horizontal line represents total fixed costs – they do not change, irrespective of volume. Total variable costs rise continuously with volume. Total costs – the sum of the fixed and variable components has the same shape as the total variable cost function, but is displaced vertically by the amount of fixed costs.



Now we have covered some of the basic terms and concepts needed in pricing. In the next section we can now examine pricing strategies within each of our four scenarios. Sometimes it is useful to create average cost functions based on the total cost functions. It is often useful to express costs on a per unit basis. Below is an example of the calculations to derive averages from the totals.

Volume (A)	Fixed Cost (B)	Variable Cost per Client (C)	Total Variable Cost D = A x C	Total Cost E = B + D	Average Cost F = E/A
200	$10,000	$10	$2,000	$12,000	$60
400	$10,000	$10	$4,000	$14,000	$35

One thing you will notice is that scale economies – meaning lower per unit costs result from the existence of fixed costs. It is these fixed costs that might create an incentive to expand volume so that scale economies can be exploited.



C. Pricing when buyer has total control of price

The first scenario is one of unilateral control – all the control in the hands of the seller.

1) Take it or leave it options

Here the buyer sets the price and extends a "take it or leave offer" to the seller. The seller cannot influence the price. It is not a negotiation. Let's assess whether the price offer is attractive or not to the seller.

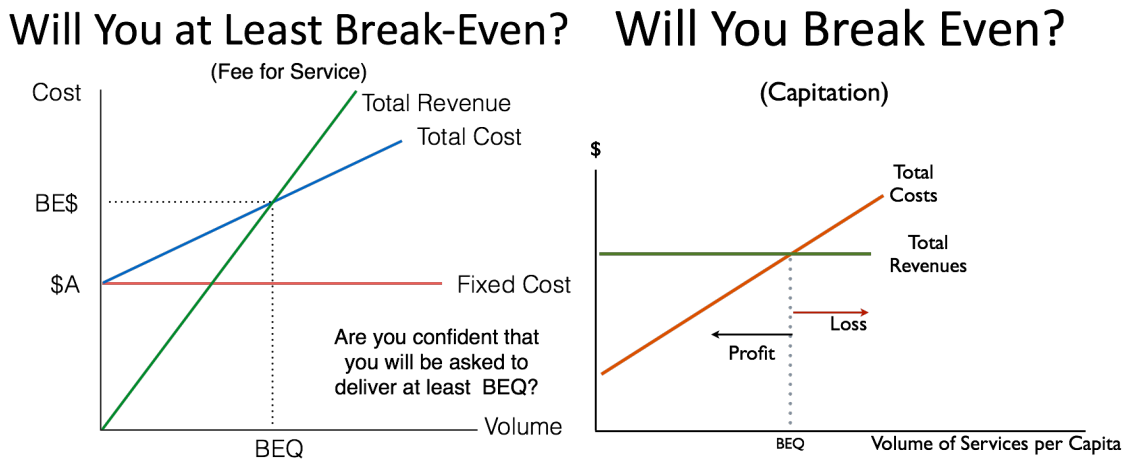
First we examine the decision in a fee for service environment. Here the buyer offers a stipulated fee for each unit of service the CBO will provide. This is a very common scenario, and one for which the CBO must be well equipped to assess.

2) Breakeven analysis

The tool the CBO needs to deploy here is breakeven analysis. Breakeven means that certain level of activity resulting in neither profit nor loss for the seller: all costs, including fixed ones, are covered at breakeven by the revenues taken in. V shows the breakeven volume in the graph. At volumes below that, the CBO would lose money and above that would make money. So the decision to accept or reject the offer is crucially dependent on how the anticipated volume compares with the breakeven level. The CBO must be confident that it will end up delivering at least

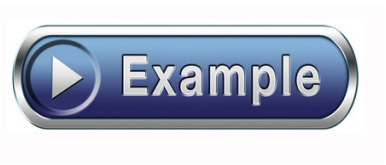
the breakeven volume. If so, it ought to be willing to go along with the offer. To calculate the breakeven volume, use this formula:

$$BEQ = \frac{FC}{P - VC}$$



Under capitation the picture and implications are altogether different. Under capitation, the revenue function is flat with respect to the volume of services provided, but costs will be a rising function. Rising because costs are driven by utilization. So you can see that the breakeven volume is BEQ. But under capitation, unlike fee for service, if the level of activity **exceeds** the breakeven level, the capitated provider will suffer a financial loss. If utilization can be limited to BEQ or less, the provider should regard the take it or leave it offer favorably.

Example: Breakeven



The decision in a fee for service environment is often quite simple: the buyer makes a take-it-or-leave offer stipulating a certain price per unit and the CBO seller either accepts it or not. This is a very common scenario, and one for which the CBO must be well equipped to assess. The tool the CBO needs to deploy here is breakeven analysis. Breakeven means that certain level of activity resulting in neither profit nor loss for the seller: all costs, including fixed ones, are covered at breakeven by the revenues taken in. At volumes below breakeven, the CBO would lose money and above that would make money. So the decision to accept or reject the offer is crucially dependent on how the anticipated volume compares with the breakeven level. The CBO must be confident that it will end up delivering at least the breakeven volume. If so, it ought to be willing to go along with the offer. The breakeven volume is calculated this way:

BEQ = Total Fixed Cost ÷ (Price – Unit Variable Cost)

Suppose a CBO provider of Meals on Wheels is offered $15 by a health plan for every meal it delivers. Suppose further that the variable costs the CBO incurs for every meal is $12. The variable costs are direct costs for labor and materials – here the cost of the cook's time and the gasoline and driver's time to deliver each meal. For every meal delivered a contribution of $3 ($15 - $12) is made towards fixed costs. Let's suppose fixed costs are $3,000. Fixed costs do not change irrespective of the number of meals delivered, and would include costs such as the required food storage and possibly the cost of administering the contract with the plan. So the breakeven here would be:

BEQ = $3,000 ÷ ($15 - $12) = 1000

If the CBO anticipates it would serve at least 1000 meals under the term of the contract, the offer would be attractive.

Exercise: Breakeven

It is now your turn to calculate a breakeven volume. Assume that fixed costs are $20,000, unit variable cost is $50 and the price received is $75 per unit.

What is the breakeven? ___

What are three variables that can reduce the BEQ? ___ ___ _____

D. Pricing when seller justifies price to the buyer based on costs

Now we move to an intermediate context where there is bilateral control over price. Here the seller has some influence on price, but not much. This scenario is one where the seller needs to justify its price to the buyer based on its costs.

The pricing situation here is one called Cost Recovery. I would urge CBO's to seek in the asked for price as much cost recovery as possible. The particular method is aptly called **Full Cost Recovery**.

Your CBO satisfies a social purpose by addressing important needs in your community. To do this, you require income. Your income can be acquired by delivering public sector contracts, by receiving grants to run projects, or by sales to customers and clients.

Ultimately, if you do not generate enough income, you will have difficulty in sustaining your organization, financially, and will fail to deliver on its mission. Ideally, CBO's should be aiming to

cover all the costs of providing their products or services. You can levy an overhead charge on top of your direct costs in an attempt to cover full costs. But often funders balk at these high, overhead percentages. They do not generally like to pay large sums for such a vague line item.

There is a solution termed full cost recovery.

Full cost recovery is the ability to recover the total cost of a service, project, activity or product, including some of the costs that are not directly related to delivering it. These indirect costs are, however, necessary to run the organization. The aim behind FCR is to avoid being at a loss financially, and face a deficit, because the full cost of providing a service is not met.

The point of this method is to reduce the requested overhead percentage. By converting indirect or overhead charges, into direct cost items through an allocation mechanism - to be explained - you can reduce the overhead percentage; and yet have all your costs covered.

In this example of a medical organization, the FCR method allocates certain indirect costs into direct ones - based on the identified activity that drives that cost. Take for instance the expense of running the multi-person Purchasing Department. Normally, this would be considered an overhead expense, but it can neatly be converted into a direct cost. How? By recognizing what drives the cost of maintaining the department. That driver would be the number of purchase orders issued. The larger is the number of purchase orders, the larger will be the staffing needs, and the larger the corresponding expense of the department.

Similarly, what drives the staff expense in the medical records department is the number of charts pulled. The allocation bases of the other indirect costs are shown as well.

If we take the expenses of staffing the medical records department – say $30,000, and divide it by the total number of charts pulled – 1500 – we get a per unit cost of $20. Now, if the contract that we are proposing involves the need to pull 300 charts, we can then allocate $6,000 to the direct costs of this contract. And justifiably so! And recall that when we move indirect costs into the direct category, we can reduce our loathed, overhead expense percentage to a level more acceptable to the funder, and still come out whole on the deal.

Not all overhead costs can be converted in this way. Generally, overhead expenses that are subject to “the Rule of One” must remain in the indirect or overhead category. The rule applies to “indivisible” organizational requirements that will be fixed in cost - irrespective of whether the organization’s programs expand or contract. For example, the salary of the CEO of a CBO must be paid irrespective of whether a specific project or contract is implemented or not. The expense cannot be

directly tied to a project. Therefore, this fixed cost cannot be allocated to a specific program, and it must remain in the overhead category.

Exercise: Full Cost Recovery

A CBO is considering a potential contract to provide care transitions to a hospital. The hospital has agreed to pay the CBO for the full costs of the program. Below are six cost items that the CBO faces. You are to correctly identify each expense as falling into one of these three categories:

A. Direct costs
B. Not allocable – subject to the Rule of One.
C. Indirect costs that can be converted to direct ones using FCR

1. Fee paid to outside bookkeeping firm to do the payroll
2. Consultant expense for monitoring and evaluating the program
3. Costs associated with the CBO Board of Directors
4. Project staff mileage allowance to visit clients
5. Information systems support
6. Legal costs of reviewing the proposed contract
7. Accounting fee for annual audit of financial statements
8. Organizational marketing expense
9. Salary expense of the team devoted to human resource management

In the following section we shift the discussion to the second of the two intermediate scenarios where control is shared between the buyer and seller.

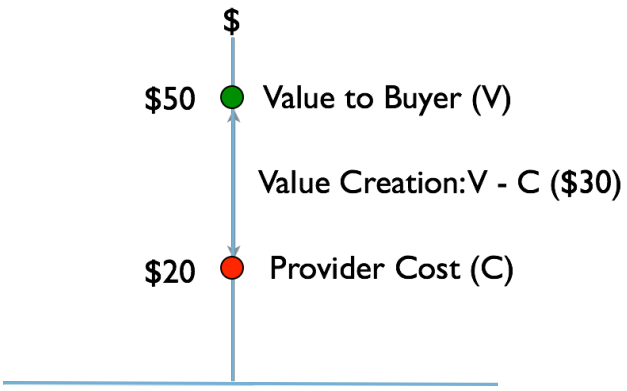
E. Pricing when buyer and seller negotiate

Here, the seller's power to influence price is somewhat stronger than the situation of full cost recovery. Now we consider a situation where price is determined by a negotiation between the parties.

1) The pricing band

There is a range of possible prices that will result from the negotiation. The price cannot be any higher than the service is worth to the client, otherwise the buyer would walk away; nor can the price be any lower than what it costs the seller to provide it. Otherwise the seller would walk away. In this example, the seller's cost is $20 and the value to the buyer is $50. The price must lie within that range.

Price Must Be Within These Limits



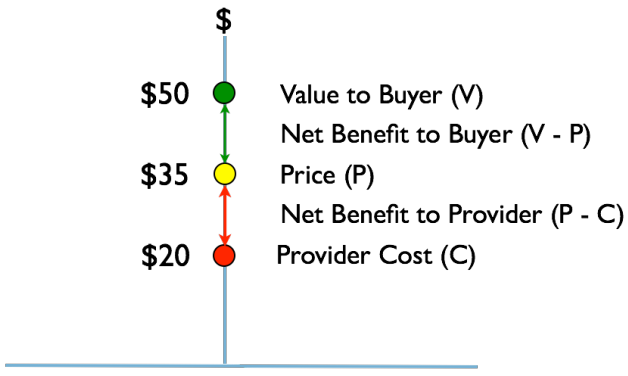
2) Value creation

Regardless of where exactly it lies, we can say that the value created is $30 – the difference between the item's value and the cost of provisioning it. We cannot say exactly how that created value will be divided; that division depends on the parties relative bargaining strengths.

3) Value sharing

A negotiation must result in a mutually beneficial outcome. The net benefit for each must be positive. For the seller, the agreed-upon price must exceed its costs; and for the buyer, that price must be less than the maximum amount the buyer is prepared to pay. Suppose the arrived-at price is $35. Then, the net benefit to the buyer is $15, and the net gain to the seller is also $15. Of session, there is nothing to suggest that the value created is split evenly in all cases as it is here.

Price Must Be Mutually Beneficial

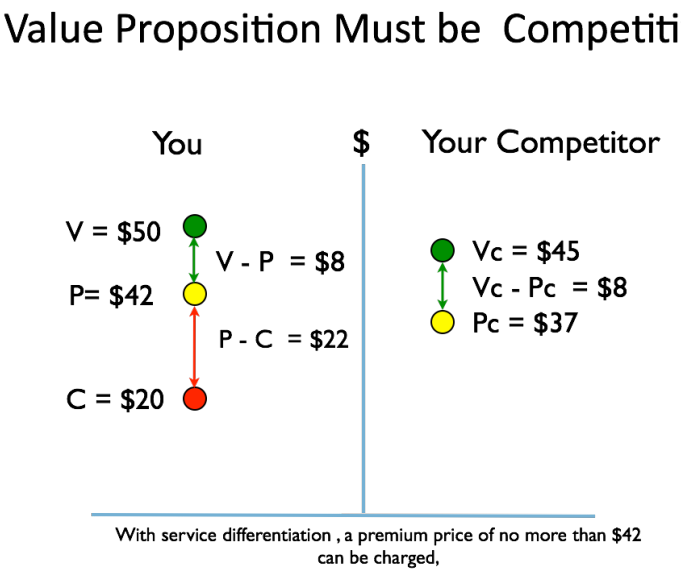


Without competition, Price could be set as high as $50

4) The value proposition and the role of competition

In this example, we assumed the seller faced no direct competition. If that were the case, then the price could be as high as $50. What if we introduce competition? What happens to the maximum price the buyer would be willing to pay you when another vendor exists? (The other competitive option could be, instead, the seller producing the service internally, rather than purchasing it from you on the market.)

The term **value proposition** is useful here, and refers to the extent of the net gain enjoyed by the buyer. In this example, we assume your competitor is charging $37 for an item that has a value of $45 to the buyer. That means that the buyer that transacts with your competitor receives a net gain of $8. The $8 represents the magnitude of the value proposition tendered by your competitor. Suppose that your service is of higher value – suppose you have successfully differentiated your service, and the buyer perceives your value to be $50 per unit, in contrast to the $45 value of the competition.



5) Situations where higher prices can be charged

Your price must be competitive. To be competitive does **not mean** you need to charge the same price. A seller does not need to charge the same or a lower price than its competitors, **if** it is offering a more valued, or differentiated, product or service. Being competitive **does** mean you must tender a value proposition to the buyer that is at least as attractive as your competitor's value proposition. Otherwise, you will not win the business.

And so, in this example if you were to charge a price of $42, or less, you would meet or beat the competitor's value proposition. You would also make money as long as

the price you get is above $20. Note that a price premium relative to the competition can be charged if you have successfully raised the value of your service. And that price premium can result in higher net income. Our results should reinforce the point made earlier, that price is just one part of the marketing mix, which also includes value creation and value communication.

In this discussion you might have been wondering what was the **source** of value for the buyer? In the LTSS arena, a clear source for the medical sector would be the cost savings resulting from adding these services in order to create an integrated system of care. Another possibility: value for the buyer is created because the service offering results in the buyer receiving additional revenues. I am thinking here of a hospital that has its Medicare penalties reduced because its readmission rate falls - due to its use of LTSS provided by a CBO.

Example: Value Proposition

Suppose a seller and a buyer jointly agree on a price through negotiations. The price that results is one that will be mutually advantageous, that is one that makes both parties better off.

The price that is arrived at is crucially dependent on whether the seller has competition or not for its service. Without competition, the seller has significantly more market power. Let's examine the range of possible prices that would result from a negotiation.

First. we examine the case where no competition exists. In a moment we will introduce competition.

Without competition, the maximum price that the buyer will be willing to pay is the perceived value of the service. Suppose that each unit of the service confers a value to the buyer of $$300. The agreed-upon price could not exceed that. The upper bound in the possible range of prices is thus $300.

For the seller, the minimum price that it must receive is the cost of providing the service. Thus, the agreed-upon price must at least be at that level. Otherwise the price would not be attractive to the seller. Suppose it costs the seller $150 to produce each unit of service. Therefore, the lower bound for the agreed-upon price is thus $300.

Consequently, the range of negotiated prices is anywhere from $150 to $300. It is impossible to determine the actual price, because that will be determined by the negotiating skills of the two parties. But for the purposes of these examples, let us assume the price is $225. The value created by the negotiation is $150 per unit of service. Value created is the sum of the net gains of the buyers and the sellers. The buyer gains $75 – the difference between the value received ($300) and the price paid

($225). The seller gains $75 – the difference between the price received ($225) and the cost ($150) incurred in providing it.

Now, we examine the case where competition exists. Competition tends to lower the agreed-upon price thereby limiting the potential for the seller to gain from the negotiation. Correspondingly, the buyer's net gains tend to rise.

Continuing with the previous example, let us assume the existence of a competitive seller (seller B) of an equivalent service that sets its price at $200. There is no reason for the buyer to pay more than this to seller A in a negotiation. Thus the range of possible prices resulting from bilateral negotiations is anywhere from $150 to $200. For the sake of argument, let's assume that the agreed-upon price is $175. The value proposition is certainly attractive for the buyer: The buyer receives a value of $300 and pays $175 for a net gain of $125.

But the above result was based on an assumption that the services of A and B were of equivalent value. What if instead we had a situation of service differentiation? What if B's service created $25 more of value than did B?

Let's assess the value proposition currently being tendered by B: the buyer when purchasing from B at a price per unit gains $100. The value proposition of $100 is the difference between the value received ($300) and the price paid ($200). Seller A is obliged to at least match that – otherwise A will be unattractive to the buyer. Having a superior service provides greater pricing latitude to the seller A. Instead of the maximum possible agreed-upon price being $200, it is now $225: if the negotiation resulted in that price, A's value proposition would have matched that of B. So differentiation, by raising the upper bound of possible negotiated prices, provides greater pricing latitude to the seller.

From this example we can conclude that:

1. *Competition limits a seller's pricing power*
2. *Differentiation, meaning providing a more valued service, expands a seller's pricing power*
3. *A lower cost allows a seller to accept a lower negotiated price and still be profitable.*

Exercise: Value Proposition

In this exercise, you are presented with information and data that will allow you to determine the lower and upper bounds of the agreed-upon price arrived at through negotiations. The price is for a care transition service that is being proposed by a CBO, called Caring Supportive Services (CSS).

- ✓ *Competition exists for the offerings of Caring Supportive Services (CSS) in the form of another CBO offering a similar service. The competitor is called Careful Care Transitions (CCT). CCT is charging $125 per unit of service.*

- ✓ *The value placed on the services of CSS and CCT differ. Based on clear evidence, the health plan that is negotiating with CSS recognizes that the CSS service results in better outcomes than those if it were to deal with CCT. Correspondingly, the perceived value of a unit of service from CCS is higher than that of CCT: the values are $380 and $340 for CSS and CCT, respectively.*

- ✓ *The cost for CSS to provide a unit of service is $100.*

Fill in the blanks below:

1. *What is the minimum price that CSS can accept in a negotiation?*
2. *If CCT did not exist, what would be the maximum price CSS could charge?*
3. *If CCT exists and charges $125, what is the maximum price that CSS can charge?*
4. *Suppose, that a price of $155 is agreed upon by CSS and a health plan. What is the net gain per unit of service for CSS?*
5. *Suppose, that a price of $155 is agreed upon by CSS and a health plan. What is the net gain per unit of service for the health plan?*

Answers:

1) $100, 2) $380, 3) $165 4) $55, 5)$225

F. Pricing when seller has total control of price

We now turn to a pricing scenario where the seller sets price; there is no need to justify it on the basis of costs; nor is it a negotiation. The seller sets price unilaterally. Now, it is the buyer who must either take it or leave it!

When the seller sets price rather than merely influencing it, it can select any price. But it must select it carefully – recognizing the market forces at play.

1) Avoiding cost-plus pricing policy

When you can set price unilaterally, you must avoid setting price on the basis of your costs, alone. Cost-plus pricing refers to marking up your cost by a fixed percentage in an effort to cover not just your costs, but also to make a profit as well.

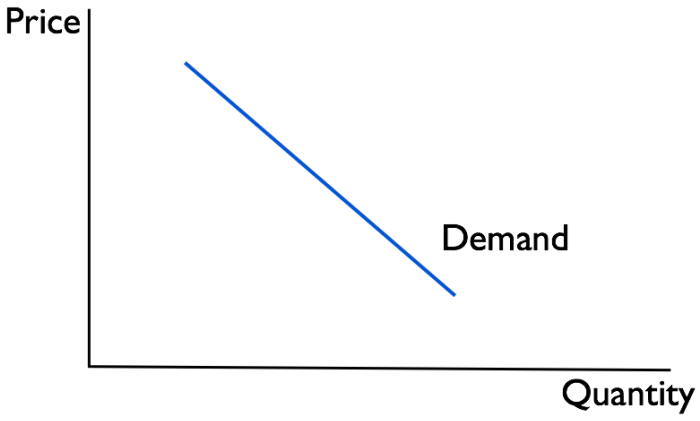
Cost-based pricing generally is sub optimal. First, it is impossible to know the level of your costs that would form the basis of your price. You first must know the volume you will sell, because there may be scale economies that affect your unit cost. But you cannot know your volume until you know your price! After all, the price that you select will dictate the volume you are going to sell! Lower prices induce higher volumes to be demanded; and higher prices discourage demand. So if you tried to set your price based on your costs, you would be caught in a circular loop with no resolution or answer.

A second problem is that cost-plus pricing may result in a death spiral: suppose volume were to fall; given some level of fixed costs, the firm's per unit cost would then rise as those fixed costs become more thinly spread over the remaining volume. Under a cost-based pricing policy, the firm would then respond to its higher per unit cost by raising price. But then volume would fall even further, leading to yet higher costs and steeper prices, until the spiraling prices put the firm out of business. Certainly a pricing method not to be recommended!

The third flaw, and a potentially disastrous one, with a cost-based pricing method is more obvious than the other two: this method ignores demand and the underlying value placed on the service by the market. A client, customer, or buyer – that is the market - is not interested in your costs. What determines the market's willingness to pay for a service is not what it costs the seller to provide it: instead, it is the perceived value of what is on offer. You cannot be oblivious to market forces when setting price!

2) The price-volume relationship

A good way to summarize market forces is with the **price-volume relationship**, which is drawn here.



The function, also referred to as the demand curve, shows the various amounts demanded of a service at various prices. The height of the function shows how

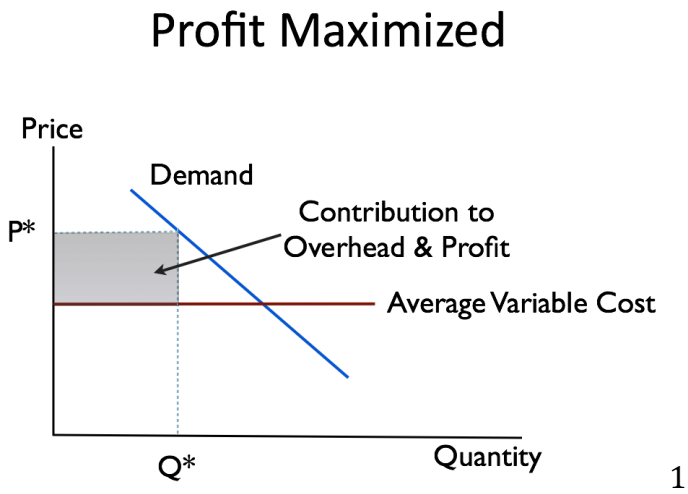
valued the service is: higher value would correspond to a higher level of demand. The demand curve has a negative slope – illustrating the law of demand, which states that price and volume vary inversely. That means if you want to sell more of a service of a given value, price must be lowered. Similarly, if you raise your price, you can anticipate a smaller volume being sold.

3) Optimizing price: maximizing contribution to profit

When seeking the optimal price in this circumstance, the seller must understand this price/volume relationship. There is a tradeoff between a higher profit margin and the resulting lower volume sold. (Sellers cannot have both!) Sellers must therefore attempt to find the optimal balance between price and volume with the aim of maximizing the contribution to profit.

The best price in this graph is P. At that price the volume sold is Q. The revenues that result from that price are equal to (P times Q) and represented by the sum of the areas of the two rectangles shown. The lower rectangle shows the magnitude of total variable costs – that is the average variable cost (labeled AVC) multiplied by Q. The upper rectangle – the difference between total revenues and total variable cost is therefore the net contribution to profit that the pricing decision generates.

The idea is to find the price that maximizes that area of gain.



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The lesson here should be clear: you have to have some awareness of the market demand to set the right price: you must understand the height of the demand curve - meaning the value you create, and also how sensitive volume is price differences.

By being aware of market forces you can conclude some important implications. First, a higher level of demand can create an opportunity to charge a higher price.

That is, if you create more value, you can capture more value with price. Second, you can also see the advantage of having a demand curve that is relatively price insensitive: when your customers are insensitive to price it allows you to be aggressive with price and push it up without facing a significant reduction in the amount of business you enjoy.

The major factor determining the sensitivity of demand to changes in price is the degree of competition that you face. If you have a large number of competitors selling similar services, you will suffer large losses in volume when you attempt to raise price. The reason, of session, is that buyers would then switch to your competitors. In contrast, if you are a monopolist or something approaching that market position, if you were to raise price the ability of customers to seek alternatives is limited. In that instance, your loss in volume will be minimal.

I suppose in some way it is fortunate that you are not often likely to find yourself in this pricing scenario, where you would require difficult-to-get market data to set your price appropriately. Take it or leave it pricing, and pricing based on costs, and negotiated prices are the more common scenarios you are most likely to encounter.

G. Advanced pricing strategies

The sections so far have covered the basics of pricing. However pricing strategies can become much more complex when competitive threats, interlinked demands, market segmentation, and inter temporal learning effects are considered. Further, pricing decisions can lead to complex decisions about managing costs.

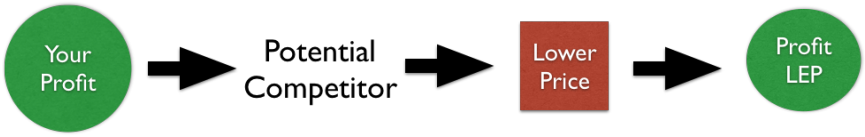
1) Price discrimination

This strategy involves charging different prices to different customers or to different customer segments for identical services. It is often the rationale behind market segmentation. To engage in this practice profitably requires that each segment display a different willingness to pay. The seller then charges a higher price to that segment that is willing to pay more – meaning it is less price sensitive. Different prices for goods can create customer arbitrage, a problem for the seller that does not arise with services. (Reselling services is impossible.) However, buyers talk and may compare prices, resulting in a need to offer the lower price to all in order to maintain sales and goodwill. A workaround to keep the segments separate is "versioning" whereby different versions of the services are offered – making price comparisons difficult. The version with the full set of features will likely appeal to the price-insensitive segment from whom can be collected a correspondingly higher price. The segment that is less "quality-sensitive" is also likely to be price-sensitive and that segment will therefore opt for the version that carries the lower price.

2) Loss leadership pricing

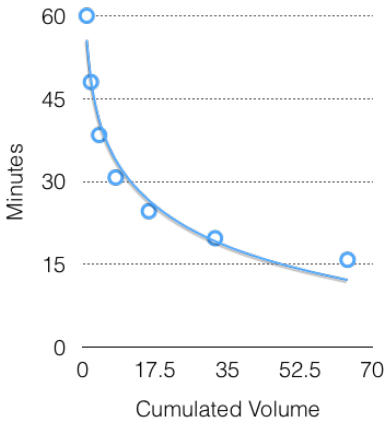
Sometimes a CBO will offer a portfolio of services. Items that are in the portfolio of offerings may have a tendency to be purchased as a bundle. For example, a CBO may offer home-delivered meals and also transport to appointments. When services are related in demand – complementary – it may make sense for the seller to lower the price of one service in order to drive demand for a related one. The loss on the service whose price is lowered may be smaller than the resulting profits from selling more of the complementary service.

3) Limit entry pricing



When a seller is concerned about possible future competitors that may enter the market and compete with it, it may be wise for it to think about imposing a (low) price that discourages or limits new entrants. Setting a price that generates high profits now but serves to encourage competition may not be wise when the longer run is considered. It may be better to sacrifice current profitability in order to enjoy the incumbent's position for a longer period.

4) Exploit the learning curve



Proficiency increases with repetition – reducing the input of time required for every service provided. New techniques. Better staffing approaches. Adoption of labor saving technology, are all probable consequences of experience. And the more experience – that is, the longer and deeper the history of delivering a service, the less time that is required for each unit. The rule of thumb in manufacturing is that a product will cost 20% less after cumulated volume doubles. What does this mean exactly? Doubling cumulated volume means that if the per unit cost were $100 for a program that has delivered 100 units of service, that when delivers 200 units, cost will be just $80 – a 20% reduction. You should consider the learning effect when setting a price. I am reminded of aerospace companies that contract with the government: they recognize that in the early years of a multi year contract they will lose money. The "bid" price seems too low. Later, however, that initial loss will be recovered as learning brings down unit costs. Consequently, the price that is set is beneath the level it would have been set were

learning not to occur. In sum, it may be prudent to set a low price for a newer service, generate more business as a result, and enjoy lower costs for future business.

5) Price based costing

There are times when the seller must take the price as given. It lies beyond the seller's control. However, that price can still be made to be profitable to the extent that the seller can mange its costs to allow a positive margin. Value analysis is a method that makes cost the dependent and price as the independent variable. (Note that it is more common to allow cost to determine price.) Value analysis involves answering this question: is each component in the service portfolio contributing commensurately with its cost? If not, then the cost of that component is ripe for reduction.

The sequential steps to take in order to reduce costs without compromising quality are as follows:

- Estimate the degree to which each service component contributes to desired outcomes and
- Estimate the degree to which each outcome contributes to creating value (outcome weights)
- Analyze each components contribution to overall costs
- Achieve balance between component cost and contribution to value
- Discover program elements that should be curtailed or eliminated
- Discover program elements that might be expanded or introduced

For example, a CBO may be targeting the following outcomes:

- Lower 30-Day Hospital Readmissions
- Fewer ED Visits
- Senior Independence
- Caregiver Satisfaction
- Other Outcomes

To do so, say it offers a portfolio of services:

- Transport
- Medication Management
- Nutrition
- Caregiver Education
- Other

Below we see the resulting hypothetical value analysis of its CBO's service portfolio.

	Transport	Medication Management	Nutrition	Caregiver Education	Other
Contribution to Value (%)	21%	33%	18%	16%	12%
Contribution to Cost (%)	42%	10%	31%	6%	11%
Value Index	**0.5**	**3.4**	**0.6**	**2.9**	**1.1**

One can conclude (from these artificial data) that medication management is a highly cost-effective service component with a value index of 3.4. Do not cut expense here; indeed raise it! On the other hand, transport and nutrition are underperforming relative to their costs and reductions here may be appropriate.

These changes can reduce overall expense and improve quality – allowing this price-based costing strategy to be profitable – despite what might have seemed like an unattractive price at which to sell into the market.

Glossary

Bilateral cost recovery: A pricing scenario where buyer accepts the seller 's price if the price can be justified on the basis of the seller's cost.

Bilateral negotiation: A pricing scenario where both the seller and the buyer have some latitude on the price that is agreed upon through a negotiation process.

Breakeven: The seller's volume required for the revenues received to exactly cover all its costs- fixed and variable.

Capitation: A medical reimbursement scheme whereby the provider receives an agreed-upon per member per month fee, and is then obligated to provide stipulated medical services regardless of volume or costs.

Contribution: The difference between the revenues taken in and the variable (relevant) expenses of a decision.

Cost-plus pricing: A pricing method whereby the seller's price is determined by the seller's cost plus some margin to contribute to fixed costs and profit.

Differentiation: Is the process of making a product or service distinct from that of others in order to make it more highly valued by the market and thus to allow a premium price to be charged.

Direct costs: Are variable costs associated with the inputs and labor required to produce a good or service. These costs, unlike indirect costs, are therefore directly traceable back to the service provided.

Fee for service: A reimbursement or payment method common in healthcare that involves the payment for each unit of a service that is provided. Under this method, the seller receives more revenues the more services it provides.

Fixed cost: A cost that remains the same regardless of the volume of an activity. A fixed cost is irrelevant in decisions involving the appropriate choice of volume.

Full cost recovery (FCR): An accurate method of setting charges or prices based on their full costs, including some overhead expenses, of providing the service. This method allows reimbursement for certain overhead expenses without having to have an inflated overhead charge that the buyer or grantor may resist.

Indirect costs: Costs that are <u>not</u> directly associated with, or traceable to, a particular service. Examples might include insurance premiums, telecommunication charges, and security costs.

Learning curve: Proficiency of service delivery increases with experience which is related to cumulated volume. As proficiency increases, per unit cost diminishes.

Limit entry pricing: An advanced pricing strategy whereby an incumbent firm discourages new entrants from coming into its profitable market by setting an unattractively low price.

Loss leadership: Pricing beneath what would otherwise be the optimal price in order to sell more of a related service.

Marginal cost: The added cost of an additional unit of an activity. For example, the marginal cost of providing a service to one more client.

Marketing mix: The constellation of the four interrelated factors crucial to the marketing function: product, promotion, place and price. Sometimes referred to as the "Four P's". Product refers to the need to create value; promotion involves the need to communicate value; place means the need to deliver value; and price refers to the seller's need to then capture that value. The pricing decision must be integrated with the other three functions.

Monopoly: a situation where the seller has few, if any competitors – allowing a higher price to be set. Under this condition, the seller can charge a price for a service that is equal to the value that the customer or client places on it.

Optimum price: The best price to choose – the one conferring maximum net advantage to the seller.

Price-based costing: Managing costs in order to make an acceptable margin when setting the price is beyond the control of the seller.

Price discrimination: Seller charging different prices for the same service to different customers

Price-volume relationship: price and service volume are negatively related. Sometimes referred to as the law of demand: when price declines the amount demanded rises and when price rises, the amount demanded falls.

Profit: The difference between revenues and total cost. Sometimes referred to as net income or the "bottom line."

Revenues: The "top line" or the gross revenues from the sales of the service or product. Revenues equal the price per unit multiplied by the number of units sold.

Sunk cost: A cost that has been incurred already, and that cannot be avoided no matter what is done subsequently. A sunk cost is not relevant for making future decisions.

Total cost: Overall costs which are found by adding the fixed to the variable expenses. The total cost function rises with respect to volume, reflecting the added costs of producing additional volume.

Unilateral buyer control: A pricing scenario where the buyer has sole control over the price. In this circumstance, the seller is given a "take it or leave it" pricing proposition.

Unilateral seller control: A pricing scenario where the seller has sole control over the choice of price. In this circumstance, the buyer takes the price as given, and then decides how much, if any, to purchase.

Value analysis: A systematic assessment and comparison of each component's contribution to customer value with its contribution to overall cost.

Value creation: The difference between the maximum value of a service or product to the customer and the seller's cost to produce it.

Value proposition: The surplus, or difference, between the value of an item to the buyer and the price the buyer must pay. For the value proposition to be attractive to the buyer and for the purchase to be made, the value to the buyer must exceed the price that is being asked. To be favored by a buyer over its competitors, a seller must offer not only a positive difference between value and price, but its value proposition must be more attractive than that of competitors.

Value to buyer: The maximum and inherent worth that a buyer receives from buying a product or service.

Variable cost: Cost that changes with the volume of an activity undertaken. Also known as differential or incremental cost.

Versioning: Creating multiple varieties of a service to appeal to different customer segments and to disguise price discrimination.

Multiple Choice (Difficult!) Quiz

(Correct answers appear after the quiz)

1. What is the most likely goal of an organization's pricing strategy?

a) Maximize its share of the market
b) Maximize its profit margin
c) Maximize its profit or net income
d) Maximize the volume of services it provides
e) Maximize its revenues

2. Which of the following is not a part of the marketing mix?

a) Producing a valued product or service
b) Communicating the value of a product or service
c) Delivering the value of a product or service
d) Capturing the value of a product or service
e) Leveraging the value of one product to expand the sales of another

3. In which pricing scenario does the seller have the greatest control on the price that is set?

a) When the buyer establishes a "take it or leave it" price
b) When the seller sets the price and buyers respond by purchasing whatever quantity of the item they desire
c) When the price is the result of a negotiation between the buyer and the seller
d) When price is set on a full cost recovery basis
e) When the price is set by a governmental body, such as CMS

4. Which statement concerning the total revenue functions under capitation and fee-for-service payments is correct?

a) Both total revenue functions are rising at a rate equal to the price of a unit of service
b) Under capitation, revenues would be flat with respect to the volume of services provided, but would rise as a function of the number of covered lives
c) Under fee-for-service, revenues are flat with respect to the volume of services provided, but rise as a function of the number of covered lives
d) Both total revenue functions are flat with respect to the volume of services provided
e) Under capitation, revenues would rise with respect to the volume of services provided, but would be flat as a function of the number of covered lives

5. Which is most likely a sunk cost for a CBO that is envisioning signing a new contract with a health plan to provide in-home client assessments?

a) The directors and officers annual liability insurance premium
b) The gasoline expense required to drive to and from client appointments
c) The payroll expense of the social workers assigned to conduct the assessments
d) The expense associated with a law firm reviewing any proposed contract between the CBO and the plan
e) None of the above

6. What can be said for sure about the breakeven volume?

a) It is the volume where the costs and revenues are just equal to each other
b) Under capitation, if the volume of services provided lies to the right of the breakeven point, losses will be incurred
c) It is the volume where no profit and no loss occurs
d) Under fee for service, if the volume of services provided lies to the left of the breakeven point, losses will be incurred
e) All of the above are true

7. Which of the following statements about the full cost recovery method is <u>false</u>?

a) The method allows reimbursement for certain indirect costs
b) The method provides more accurate cost data for internal purposes
c) The method involves converting indirect into direct costs
d) The method involves charging a higher overhead rate to compensate for indirect costs
e) The method results in setting a lower overhead percentage

8. When price is negotiated between the buyer and the seller, the negotiated price of the item

a) Will be the minimum acceptable from the perspective of the buyer
b) Will be the most that the buyer would be willing to pay for the item
c) Will lie somewhere between the value of the item to the buyer and the cost to the seller of providing the item
d) Nothing can be said for certain about the agreed-upon price
e) Will be established at the same level that competitors are charging

9. When a seller of a service has control over the price it can charge and faces competition, then the price it selects should

a) Be less than the competition

b) Afford the buyer a more attractive value proposition than that of the competition
c) Create a breakeven proposition for the seller
d) Result in the buyer paying more than the value of the service
e) Result in equal net benefits to both the seller and the buyer

10. When a seller has control over the price it charges, it should strive to

a) Optimize the price/volume relationship
b) Charge the highest price possible
c) Charge a price that is a fixed multiple of its costs
d) Maximize the contribution to profit
e) Both a) and d)

(Correct answers are: 1c, 2e, 3b, 4b, 5a, 6e, 7d, 8c, 9b, 10e)