

# Logic Models

- Visualize how investments and programs will help achieve goals (outputs), mission (outcomes), and vision (impact).
- Facilitate shared understanding, enhance focus on goals and methods, and show the relationship between invested resources and desired results.
- May be theory, outcome, or activity-based. No one is better than another, so selection of which logic model to use should be based on what is being planned, implemented, or evaluated.

## Basic Logic Model Process

<b>Work</b>	<b>Inputs</b>	What you need to operate revenue stream (e.g. money, space, materials, staff, and volunteers to run a community garden)
	<b>Activities</b>	Use inputs to perform planned activity (e.g. run the garden for a season)

<b>Results</b>	<b>Outputs</b>	The amount of product or service you deliver (e.g. number of community participants, pounds of food produced)
	<b>Outcomes</b>	Benefits to the recipients of the activity (e.g. increased knowledge, food on table)
	<b>Impacts</b>	Systems changes in organizations, communities (e.g. lower hunger, better school performance, economic wellbeing)

## Advanced Logic Models

**Theory Approach** logic models emphasize linking together ideas that illustrate underlying assumptions. They explain how and why you think a program will work. This type of logic model is most useful during the planning and design stages of a program.

**Outcomes Approach** logic models forecast short-term and long-term outcomes and impacts to highlight needed resources and activities. This type of logic model is most useful during planning and also helps with designing evaluation and reporting strategies.

**Activities Approach** logic models emphasize what you will actually do, linking activities together to show the detailed steps needed to carry out a program. This type of logic model is most useful for program implementation, monitoring, and management.

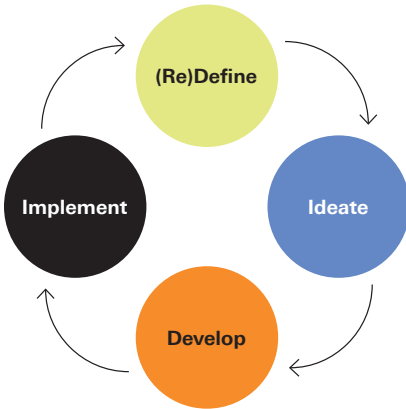
# Innovation Process

**Sometimes innovation is a “lightning strike” moment of inspiration. More often, though, finding ways to increase value or cut costs comes from attentive, iterative work.**

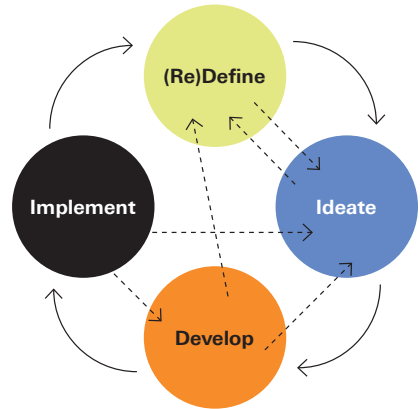
Watching for innovation opportunities, examining problems and possible answers, prototyping, and implementing the winning solutions takes focus, effort, and diverse expertise.

The process will typically circle back on itself in many ways as you work. Don't be afraid to fail and try again!

## The Idealized Innovation Process



## The Real Innovation Process



# Uniqueness

The unique qualities of your garden, both internal and external, may provide innovation opportunities to you. Jump start your brainstorming with a simple fill-in-the-blank worksheet that may help you find creative ideas hiding in plain sight.

## To complete the worksheet, you will need to list:

- 4 adjectives
- 2 nouns
- 1 verb
- 2 popular garden features
- 1 little-known garden feature
- 1 new program/event idea
- 1 natural garden feature
- 1 physical asset of your garden
- 1 (large) number

We are a/n \_\_\_\_\_ public garden located in a wonderful part of the world. We are known for \_\_\_\_\_ and \_\_\_\_\_.

\_\_\_\_\_ . Unknown to many is our unique \_\_\_\_\_, which may \_\_\_\_\_ guests because of its interesting \_\_\_\_\_, and could be used for \_\_\_\_\_! The garden also has a/n \_\_\_\_\_ and a/n \_\_\_\_\_ that may support this new idea. The garden is also poised to offer unique experiences thanks to staff's expertise in \_\_\_\_\_. These potential new programs, events, and other experiences will help our garden make \_\_\_\_\_ in extra earned revenue!

*Ask a variety of staff members to complete the fill-in-the-blank exercise. You can then compare and contrast the responses to identify new ideas that may not have otherwise surfaced.*

# Rose, Bud, Thorn

This design-thinking activity highlights the relationships among your various programs. By naming star programs (roses), identifying opportunities with the most potential (buds), and confronting challenges (thorns), your team will be more aligned in making improvements and advancing your mission.

Typically done as a verbal exercise, “rose, bud, thorn” can be performed with staff, volunteers, board members, or even participants in a class or program.

## **Rose: A success.**

### **Questions to ask:**

What is something that is working well? What are you most proud of?

## **Bud: An opportunity.**

### **Questions to ask:**

What can be improved? What is an idea that can be explored further?

## **Thorn: A challenge.**

### **Questions to ask:**

What is something that is not working? What was difficult?

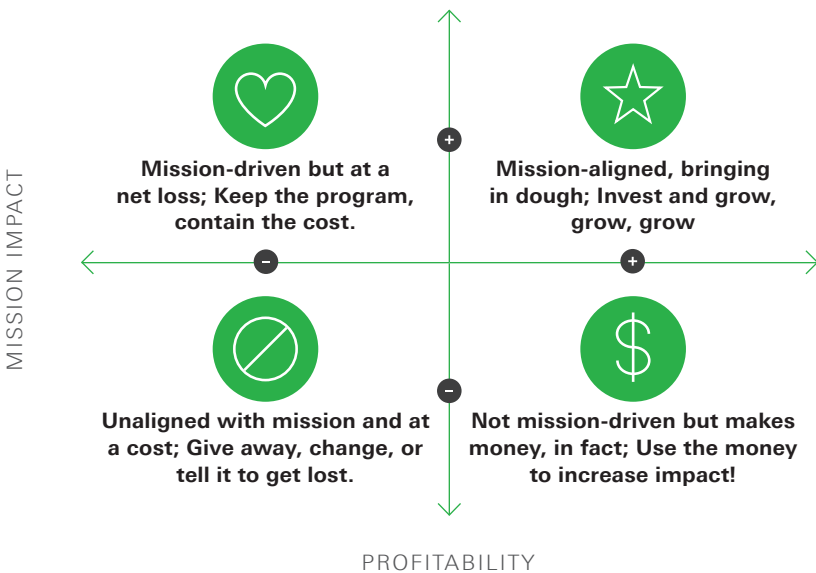
**Horticultural Fun Fact:** Did you know that rose “thorns” are not actually thorns? They are prickles. A prickle randomly forms on a stem originating from the stem’s epidermal cells. Thorns, on the other hand, are modified stems originating from a node. Whether you say “thorn” or “prickle” either can be a challenge when pruning, so remember to discuss your program challenges and look for innovative solutions at your next “Rose, Bud, Thorn” brainstorming exercise.

# Matrix Map

The matrix map is a tool to visualize your revenue streams along two gradients—profitability and mission impact—while documenting their costs. Create your matrix map by placing a dot for each of your programs in the correct quadrant and make the size of the dot correspond to the program's cost.

Note that measuring profitability is much more straightforward than assessing mission impact. It will be helpful for your organization to carefully articulate desired impact and then apply that definition across programs. For example, if your mission is to advance healthy communities, ask how well each of your individual programs supports that outcome.

**Use the matrix map to prioritize decisions about changing, growing, or even ending programs.**

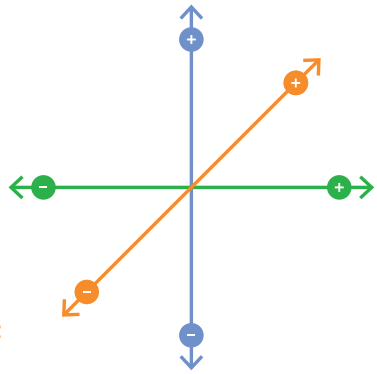


# Advanced Matrix Map

**ROI: Return on Investment/Profitability**  
(Bottom line)

**ROM: Return on Mission/Mission Impact**  
(Double bottom line)

**ROV: Return on Values/Values Alignment**  
(Triple bottom line)



**ROI ROM ROV Implication**

ROI	ROM	ROV	Implication
+	+	+	Invest in and protect while monitoring to guard against significant increases in costs or loss of values alignment. Determine what from this highly successful program could inform other less successful programs.
+	+	-	Explore where the misalignment in values is originating and course correct. For example, if your organization values sustainability and you see that there is a negative environmental impact for your event materials, can you switch out plastic program materials for natural materials?
+	-	+	Base your decision on the relative level of profitability versus the level of mission misalignment. Be aware that this may become an area of taxable unrelated business income.
+	-	-	Double misalignment with mission and values may mean these should be left behind. This is another area of potentially taxable unrelated business income.
-	+	+	If costs are large, explore how they may be decreased if possible. Decide if increasing revenue is possible, though it may not be for something like a mission-aligned free program.
-	+	-	If mission alignment is strong, consider how you can better infuse your values. Hold discussions with stakeholders and explore improvements.
-	-	+	Consider closing or giving away these programs as they are not profitable and also do not align with your mission. If mission can be incorporated more strongly, these could become valuable.
-	-	-	Consider closing or giving away these programs. While they may be great ideas, your organization may not be where they will thrive.

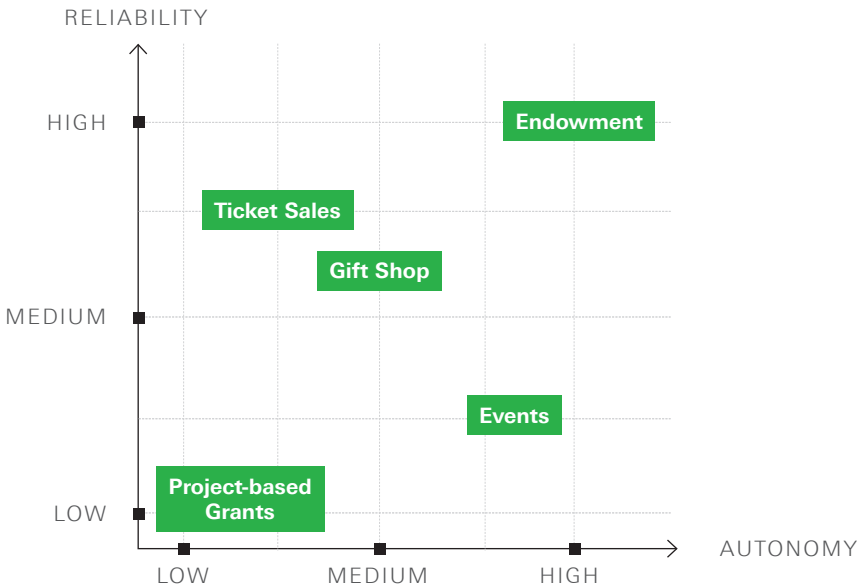
# Reliability-Autonomy Matrix

**A Reliability-Autonomy Matrix helps evaluate revenue streams according to how sure or stable the revenue is (reliability) and how much independence you have within each revenue stream (autonomy).**

Revenue streams like government contracts and grants may be reliable but have restrictions or terms that dictate how you can use the money, reducing their autonomy.

Revenue streams such as earned revenue from gated/ticketed admission can provide you with a high level of autonomy but can be highly variable.

Every organization will weight these factors differently to create an ideal revenue mix. A helpful exercise could be to fill out a Reliability-Autonomy Matrix, first with your ideal mix and then with your current actual mix.



# Program Evaluation Rubric

A Program Evaluation Rubric is created using a simple Excel spreadsheet. It allows you to evaluate multiple programs across several metrics at once, which can facilitate more high-level analysis and strategy.

Program Name	Program 1	Program 2	Program 3
<b>Strategic Advancement</b>	yes / no / other	yes / no / other	yes / no / other
Diversify Attendance/Build New Audiences			
<b>Broaden Awareness</b>	yes / no / other	yes / no / other	yes / no / other
Member Cultivation/ Strengthen Connections with Members			
Mission Related?			
<b>Financial Impact</b>	yes / no / other	yes / no / other	yes / no / other
Anticipated Revenue			
Anticipated Profitability			
<b>Engagement and Impact</b>	yes / no / other	yes / no / other	yes / no / other
Opportunity for Volunteers?			
Community Service			
Impact on Organization			
Impact on Community			
Opportunity for Donor Cultivation?			
Strengthen Community Ties			
<b>Mission Alignment</b>	yes / no / other	yes / no / other	yes / no / other
Sparks Joy/Fun			
Advance IDEA Priorities			
Honors Tradition			
Donor Appreciation			
Opportunity for learning/ experiencing			

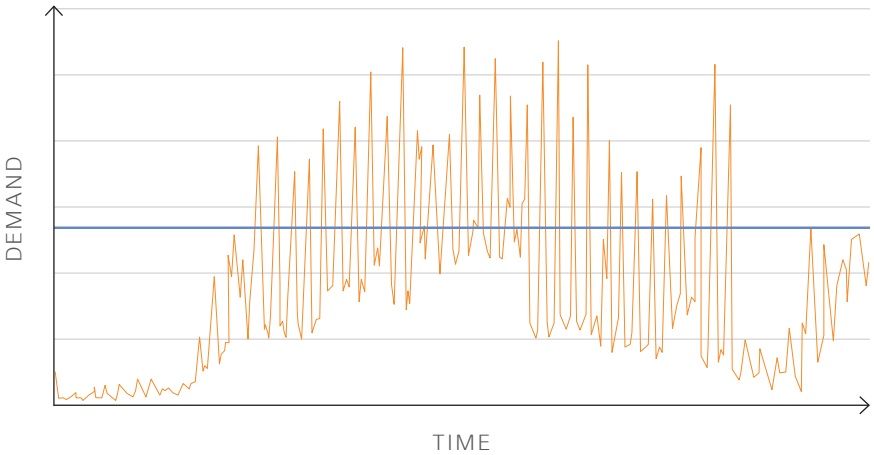


# Static/Fixed Pricing

Static, or fixed, pricing is a model in which a single price is set for a good or service, and this price does not change in response to external variables such as the level of demand or the time at which the service is provided.

**An example of static pricing is having the same admission ticket price through the entire year. There are no changes based on low and high demand seasons.**

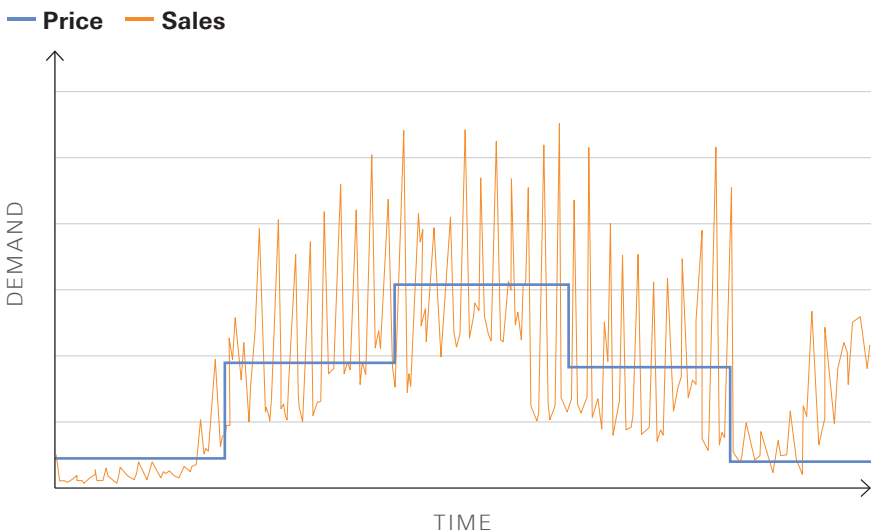
— Price — Sales



# Variable Pricing

Variable pricing strategies adjust prices based on demand. This increases revenue during peak demand because prices are set higher. When demand is low, price can be also be lower to entice increased demand and engagement.

**An example of variable pricing would be having different admission prices at different times of the year. During known low-visitation periods, prices are set lower to try to entice more guests. During peak visitation, prices are set higher to capitalize on the high demand.**



# Dynamic Pricing

**Dynamic pricing allows adjustment of prices based on both predicted demand (like in variable pricing), and on real-time fluctuations in current demand.**

An example of dynamic pricing could be tickets to a garden concert. The base ticket price is calculated according to predicted demand using factors like artist popularity, genre of music, or time of year. The price of tickets also increases dynamically in real-time as tickets are sold, or in other words, as demand increases. That is, a concert ticket purchased in week 3 of sales may cost more than a ticket purchased in week 1 if early sales are strong.

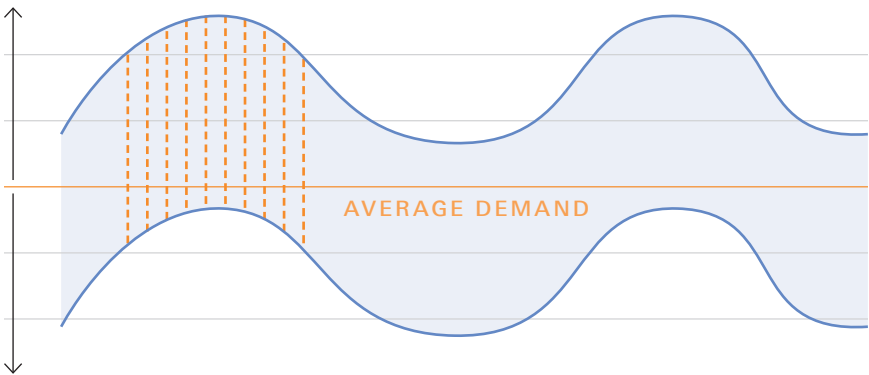
## Dynamic Pricing Range

the range of prices within which the dynamic pricing algorithm may adjust the price in real-time based on external factors.

## Factors Considered in Real-time

For example: live demand on website for event tickets, time until event, time of year, historic attendance numbers, weather, other external market factors.

RISING  
DEMAND



FALLING  
DEMAND

*Broshears, C. (2016). How Does Dynamic Pricing Work? Digionex.*

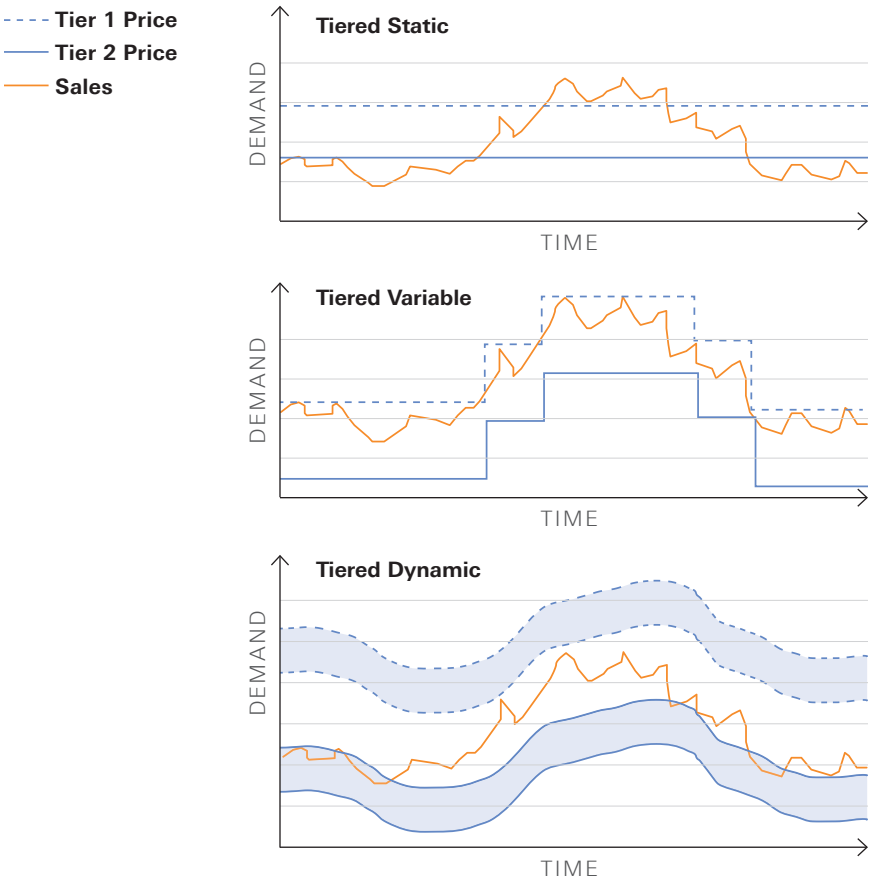
*Bondi, S., M. Goldrick, J. Wilkie, B. Sen, E. Reasor. (2021). The Does and Don'ts of Dynamic Pricing in Retail. McKinsey.*

# Tiered Pricing

Tiered pricing lets you offer products or services at different price points by changing the offering within each tier. The additions at higher levels may entice guests to upgrade their purchase to acquire the extra items or services.

An example of tiered pricing in gardens is offering different membership tiers that include extra perks. Each higher, and more expensive, level of membership would include benefits like additional free tickets for friends and family, unique souvenirs, or exclusive behind-the-scenes staff tours.

Static, variable, and dynamic pricing models could all potentially include tiers, depending on the specific goods or services.



# Financial Ratio Definitions

Nonprofits have a special mandate to ensure that we are delivering the highest value to our guests, communities, and other stakeholders. One way to ensure this outcome is through financial ratios. Used to deepen understanding of an organization's financial situation, financial ratios are quantitative analysis tools that consider specific values in relation to one another. These simple calculations can facilitate earned revenue discussions, enable us to monitor financial trends, and help us measure the financial health of organizations, programs, and individual earned revenue streams. T. R. Ittelson's *Nonprofit Accounting and Financial Statements* identifies three main questions answered by financial ratios:

- **How effective are an organization's programs at advancing mission?**
- **How sustainable are an organization's programs?**
- **How financially fit is an organization?**

The ratios in the following pull out cards focus on the first two questions but can provide helpful information in answering the third as well. Each card provides specific questions that each ratio can help answer.

**For these ratios, we use the following simple definitions:**

**Revenue** = Money coming in

**Expense** = Money going out

**Change in net assets** = Revenue minus expense

*"Analyzing Financial Information Using Ratios."* Propel Nonprofits, 25 Jan. 2019, [www.propelnonprofits.org/resources/analyzing-financial-information-using-ratios](http://www.propelnonprofits.org/resources/analyzing-financial-information-using-ratios).

Ittelson, Thomas R. *Nonprofit Accounting & Financial Statements: Overview for Board, Management and Staff*. Cambridge, Mercury Group Press, 2020.

Rakow, Donald, et al. *Public Garden Management: A Complete Guide to the Planning and Administration of Botanical Gardens and Arboreta*. 2nd ed., Wiley, 2011.

# Earned Revenue Ratio

**This ratio answers the question: How important is earned revenue to the financial health of your organization?**

Using this tool, you can calculate earned revenue as a percentage of your total revenue to gain an up-to-date understanding of the impact of earned revenue on your overall financial position. Simply divide all of your earned revenue by your total revenue, which includes earned income, contributed revenue, government grants, investment income or any other income. Because earned revenue is money received from the sale of goods and services and is not typically restricted to specific expenditures, organizations with earned revenue have more autonomy and flexibility.

## Template

$$\text{Earned Revenue Ratio} = \frac{\text{Earned Revenue}}{\text{Total Revenue}}$$

**Example:** Last year, Green Garden and Arboretum (GGA) posted total revenues of \$1,903,481, of which \$845,167 was earned revenue. Using the Earned Revenue Ratio, we can see that GGA's earned revenue accounted for 44% of their total revenue. Their budget goal was to attain 40-50% of total revenues from earned revenue. Using this ratio, we can see that they are within their target.

## Ratio in Action

$$\text{Earned Revenue Ratio} = \frac{\text{Earned Revenue}}{\text{Total Revenue}}$$

(.44) =  $\frac{\$845,167}{\$1,903,481}$

# Reliance Ratio

**This ratio answers the question: How reliant is your organization on your largest revenue source?**

The Reliance Ratio provides insight into overall financial health and clarifies whether revenue streams are adequately diversified. It also highlights potential risks if the largest revenue streams are interrupted, and organizations can use this ratio to evaluate reliance on earned revenue even if it's not the largest source of money.

*See the Reliability-Autonomy Matrix (Program Evaluation Tool Card 03) to explore how it combines with this ratio to visualize risk and reliability.*

## Template

$$\text{Reliance Ratio} = \frac{\text{Largest Type of Revenue}}{\text{Total Revenue}}$$

**Example:** Last year, Green Garden and Arboretum (GGA) had \$1,903,481 in revenue. The largest portion came from ticket sales, which totaled \$453,305. Using this ratio, we can determine that ticket sales drive nearly 24% of GGA's income. If this resource is highly reliable, it may be worth growing that revenue stream. If not, it may be worth allocating resources to grow other revenue streams.

## Ratio in Action

$$\text{Reliance Ratio (.238)} = \frac{\text{Largest Type of Revenue (\$453,305)}}{\text{Total Revenue (\$1,903,481)}}$$

# Earned Revenue Self-Sufficiency Ratio

**This ratio answers the question: What portion of our expenses are covered by earned revenue?**

The Earned Revenue Self-Sufficiency Ratio helps to evaluate financial risk related to unrestricted funds generated as earned revenue. A higher percentage can potentially lower overall risk because more expenses can be covered by earned revenue sources. This ratio can also provide insights into the performance of earned revenue initiatives.

## Template

$$\text{Earned Revenue Self-Sufficiency Ratio} = \frac{\text{Total Earned Revenue}}{\text{Total Expense}}$$

**Example:** Last year, Green Garden and Arboretum's (GGA) expenses totaled \$1,871,937. Through expanded sales initiatives, they earned \$845,167, which supported 45% of their total expenses. Using this insight, GGA set a goal of increasing earned revenues to cover 60% of their expenses. Achieving this goal will both reduce their reliance on philanthropic contributions and increase their efficiency at covering expenses.

## Ratio in Action

$$\text{Earned Revenue Self-Sufficiency Ratio (.45)} = \frac{\text{Total Earned Revenue (\$845,167)}}{\text{Total Expense (\$1,871,937)}}$$



# Return on Revenue Ratio

**This ratio answers the question: For each dollar of revenue, what is left after all expenses have been paid?**

Using this standard ratio, most nonprofits find that their surpluses usually total less than 5% (Ittelson, 2020). Negative year-over-year revenue trends can be an indicator of poor financial management, and savvy leaders can identify and solve problems early by using this ratio at regular intervals. It can also be scaled to examine a specific revenue source like ticket or gift shop sales; simply calculate the change in net assets (relevant revenues minus associated costs) and divide by that revenue source.

## Template

$$\text{Return on Revenue Ratio} = \frac{\text{Change in Net Assets}}{\text{Total Revenue}}$$

**Example:** Last year, Green Garden and Arboretum (GGA) posted total revenues of \$1,903,481. The change in net assets is \$50,544, which is a 2.6% rate of return. This means for every dollar of revenue that GGA earned, between 2 and 3 cents are left over after expenses.

## Ratio in Action

$$\text{Return on Revenue Ratio (.026)} = \frac{\text{Change in Net Assets (\$50,455)}}{\text{Total Revenue (\$1,903,481)}}$$

# Per Capita Ratio

**This ratio answers the question: How much earned revenue can you expect to make per customer?**

This ratio is often used for making revenue projections, reporting performance, and analyzing the financial vigor of gift shops or food and beverage sales. Low per guest spend identified in this ratio could indicate that potential earned revenue is being left on the table. Guests could be better enticed to spend extra money while in the garden.

## Template

$$\text{Per Capita Ratio} = \frac{\text{Revenue}}{\text{Attendance}}$$

**Example:** Last year, the café at Green Garden and Arboretum (GGA) netted \$48,193. Their attendance for the year was 20,815. Using the Per Capita Ratio, we find that GGA can expect to make \$2.32 in food and beverage sales to each visitor. This information could inform budget projections when forecasting variations in attendance based on something like a tiered pricing scenario.

## Ratio in Action

$$\text{Per Capita Ratio} (\$2.32) = \frac{\text{Revenue} (\$48,193)}{\text{Attendance} (20,815)}$$

# Cost of Revenue Ratio

**This ratio answers the question: How much does an organization spend for every dollar it earns?**

The smaller the percentage, the less it costs to do business. This ratio can reveal the need to reduce expenses or increase revenues to attain a target percentage. Earned revenue or fund raising efforts should produce a net profit indicated by a cost of revenue ratio less than 1. “Friendraising” events or ineffective programs may have ratios greater than 1, indicating more money is being spent than is being earned.

## Template

$$\text{Cost of Revenue Ratio} = \frac{\text{Total Expense}}{\text{Total Revenue}}$$

**Example:** Last year, Green Garden and Arboretum (GGA) reported \$1,903,937 in total revenues and \$1,871,937 in total expenses. Using the ratio, we find that their cost of revenue ratio is .98. This means it cost 98 cents to earn \$1.00, or \$98 to earn \$100. Although this may sound expensive, GGA is not far from the industry benchmark: in 2019-2020, the Median Public Garden Data reported through the APGA included an average cost of revenue at 97%, or 97 cents for every dollar earned.

## Ratio in Action

$$\text{Cost of Revenue Ratio (.98)} = \frac{\text{Total Expense (\$1,871,937)}}{\text{Total Revenue (\$1,903,937)}}$$

# Return on Investment Ratio

**This ratio answers the question: How much is an investment or program returning relative to its cost?**

The Return on Investment Ratio (ROI) reports profitability as a percentage value. Using percentages allows you to compare across disparate opportunities since the values are unitless. This can help you choose between potential new programs and investments in which to invest.

## Template

$$\text{Return on Investment Ratio} = \frac{\text{Change in Net Assets}}{\text{Total Expenses}}$$

**Example:** After two years of implementing short pilot programs, Green Garden and Arboretum (GGA) has identified two options for expanded investment. By using the Return on Investment Ratio, GGA learns that Option A has an ROI of .12 and Option B has an ROI of .03. Because ROI is the highest priority for the new program, GGA decides to expand Option A because it will return a higher percent over their initial investment. By investing \$345,000, GGA expects a return of \$387,000.

## Ratio in Action

$$\text{Return on Investment Ratio (.12)} = \frac{\text{Change in Net Assets } (\$42,000)}{\text{Total Expenses } (\$345,000)}$$

# Program Expense Ratio

**This ratio answers the question: How efficient is an organization at delivering on its mission through programs?**

The Program Expense Ratio is a key indicator in the eyes of many philanthropic donors. A higher ratio means more resources are going towards mission rather than overhead costs. The comparison of program expenses to total expenses shows how much an organization is spending towards its core mission.

*See the Matrix Map (Program Evaluation Tool Card 01) for more tools focused on mission-related program evaluation in relation to earned revenue.*

## Template

$$\text{Program Expense Ratio} = \frac{\text{Program Expenses}}{\text{Total Expenses}}$$

**Example:** Green Garden and Arboretum (GGA) reported total expenses of \$1,871,937 last year. This figure includes staff time, materials, and promotional costs. GGA then tallied all expenses related to program activities and found that \$1,137,553 was spent on its program expenses, generating a Program Expense Ratio of 60%. In other words, 60% of GGA's expenses are mission-driven, leaving 40% of expenses attributed to overhead costs. In this case, the percentage of overhead costs is relatively high: GGA may need to reconsider how it is classifying its expenses to ensure that all associated costs are accurately included in its calculation of program costs.

## Ratio in Action

$$\text{Program Expense Ratio} \quad (.60) = \frac{\text{Program Expenses} \quad (\$1,137,553)}{\text{Total Expenses} \quad (\$1,871,937)}$$

# Human Resource Cost Ratio

**This ratio answers the question: What percentage of our expenses are related to human capital?**

Understanding the cost of employees can help inform capacity-related decisions about new initiatives or identify operational inefficiencies. Like many of the ratios in this toolkit, this information will be most useful if used at regular intervals. If the ratio is increasing but revenue is flat, organizations may have capacity or operations issues.

## Template

$$\text{Human Resource Cost Ratio} = \frac{\text{Total Wages, Taxes and Benefits Expenses}}{\text{Total Expense}}$$

**Example:** Last year, Green Garden and Arboretum (GGA) had expenses totaling \$1,871,937, and their total wages, taxes, and benefits equaled \$767,453. By using this ratio, GGA learned that staff compensation accounted for 41% of its expenses. This insight can help GGA benchmark and ensure that this cost aligns with its organizational priorities.

## Ratio in Action

$$\text{Human Resource Cost Ratio (.41)} = \frac{\text{Total Wages, Taxes and Benefits Expenses (\$767,453)}}{\text{Total Expense (\$1,871,837)}}$$

# Cost Per Unit of Service Ratio

**This ratio answers the question: How effective/efficient is our program? And how is it trending over time?**

The Cost per Unit of Service Ratio enables organizations to conduct program-based record keeping. Identifying “units” of service—like trees planted or classes offered—helps organizations evaluate financial efficiency and identify trends over time.

## Template

**Cost per “Unit”  
of Service Ratio**

=

**Program Expense**

**Units of Service**

**Example:** Green Garden and Arboretum (GGA) has a 2,000-square-foot Horticulture Therapy Garden that costs \$55,000 annually to maintain and activate with relevant programming. By recognizing that it costs \$27.50 per square foot to run, GGA can make an informed decision about whether or not to expand this garden.

## Ratio in Action

**Cost per “Unit”  
of Service (\$27.50)  
per Square Foot**

=

**Program Expense  
(\$55,000)**

**Units of Service  
(2000 Square Feet)**