Revenue and Cost Drivers

Revenue and cost drivers refer to identifiable parts of business operations, such as service outcomes or activities, that explain the amount of revenue earned or cost incurred. Cost drivers are incorporated in many management accounting techniques to help measure resource use or describe how operations and objectives cause costs. The revenue management levers mentioned previously can also be interpreted from a revenue and cost driver perspective.

Revenue drivers and how they can be modeled in conjunction with established cost driver models are described in this section and show how revenue management thinking can be integrated with cost management and resource thinking.

Conceptual Model of Revenue and Cost

The guiding principle for cost driver modeling in the IMA CFMC is causality, which is fundamentally defined as the ability to reflect cause-and-effect relationships.[22] This same guiding principle applies to revenue driver modeling.

A useful revenue model must efficiently guide a manager in two ways to (1) show how a monetary effect is linked to the operational cause and (2) provide clear and direct insight into the probable monetary effect of a particular operational action (or cause) being considered. That is, organizations make monetary investments to create and capture revenue value, which in turn can be measured monetarily.

By applying the principle of causality and its associated concepts, we create an operational model that represents an organization's processes, and then collect financial information to inform the operational model. The resulting financial model will represent the causal relationships of strategic and operational impacts on costs or on revenue. In fact, when revenue drivers are modeled to demonstrate the causal relationship between operational inputs and operational outputs, then revenue drivers are also cost drivers in the organization.[23] The principle of causality in modeling revenue drivers establishes the baseline that managers use to optimally achieve their revenue strategy.

The design, implementation, and use of a revenue driver model must apply two principles—causality and analogy. Causality, as described above, deals with capturing and understanding quantitative cause-and-effect relationships in the organization. Analogy is concerned with applying causal information to optimize management decisions. That is, causal information describes interactions—how do parts of the business interact and what are the associated financial outcomes? Analogy refers to management decisions—given our understanding of causal interactions, what changes can we make to improve performance?

For example, two revenue drivers commonly associated with yield management are market segments with a diverse range of price points. The causal model should inform management of the impact on processes and resources to service each segment with a matching of the consequent effect to price points. This can then enable managers to evaluate profitability of

[22] White and Clinton, 2014.

[23] Note that while all revenue drivers also represent cost drivers in the organization, the reverse is not necessarily true: Not all cost drivers can be represented as revenue drivers.

segments and pricing strategies. This becomes especially pertinent if the decision-making problem concerns new market segments and new products or services.

The backbone of revenue management is an operational model composed of outputs and their required input (resource) quantities. A quantity-based causal revenue model directly connects the resources, products, and services about which managers make decisions. Money serves as a common denominator to compare diverse and often incomparable nonmonetary operational decision alternatives. This modeling approach supports managers' information needs in two ways:

1) Nonmonetarily, it presents a quantitative representation of relevant cause-and-effect relationships between resources, processes, and customer value attributes, and
2) Monetarily, it provides the financial valuation of the resource quantity relationships with revenue quantity.

Analogy fundamentally underlies all managerial decisions and actions. It forms a mechanism upon which valuable business experience can be gained and applied. Analogy can be applied by using the information from a revenue model built on operational cause-and-effect relationships. Such a causal model facilitates learning and decision making by providing for all managers clear, logical insights into the operational relationships and related monetary outcomes (both costs and revenues) of an organization.

Based on the CFMC, we lay out 12 concepts essential to establishing a causal revenue model that can be classified as follows:

1) *Managerial objectives*: Specific results or outcomes based on the application of resources that managers choose to employ for the purpose of deploying work activities that build or protect revenue.
2) *Resources*: The people, technology, inventory, and intellectual property that have been developed or employed by the organization. Resources are combined with work activities to establish revenue attributes.
3) *Work*: Resources engaged in specific work activities or processes to accomplish managerial objectives. The ability to model specific work activities and processes assists in optimizing the capacity of resources. Work activities, combined with resources, create attributes that may or may not be valued by customers.
4) *Attributes*: The service outcomes created by resources and work activities. Ideally, the application of resources and work activities should be valuable to customers.
5) *Revenue*: A monetary measure of the bundle of product or service outcomes provided to customers.
6) *Cost*: A monetary measure of (a) consuming a resource to achieve a managerial objective or (b) making a resource available and not using it.
7) *Homogeneity*: The characteristic of one or more resources that share a similarity that allows their managerial objectives and costs to be governed by the same set of determinants. For example, customers who share similar needs that are met by similar resources.
8) *Traceability*: The characteristic of a resource input that permits it to be observed and recorded with respect to its managerial objective or customer group (segmentation).
9) *Capacity*: The potential for a resource to do work that generates revenue and achieves managerial objectives. Knowledge of excess or idle capacity represents a significant optimization opportunity.

10) *Responsiveness*: The correlation between the output of managerial objectives and the input quantities of a particular resource. Responsiveness captures the essence of the cause-and-effect relationship.
11) *Attributability*: The concept of attributability guards against arbitrary decisions to quantitatively associate resources with specific revenue outputs when responsiveness cannot be observed. Instead of making arbitrary quantitative associations, revenue-related resources without clear connections to revenue outputs are assigned to business or organization levels based on control and responsibility factors.
12) *Integrated data orientation*: Information about an organization's economic resources, events, and their corresponding monetary values that allows for the aggregation of elementary data elements and their values for any purpose. Managerial accounting depends on integrated operational and financial data sources that can be consistently stored for access and retrieval throughout the organization, independent of the general ledger.

Note that *managerial objectives* and *resources* form the constructs that make up the organization's revenue model. *Revenue, cost, homogeneity, capacity, work, and attributes* describe the characteristics of the constructs, while *responsiveness* and *attributability* describe the relationships between the constructs and *integrated data orientation* denotes the nature of high-quality information in the revenue model.

The CFMC also establishes four characteristics that are critical to using the causal revenue model as an analogy for managerial decisions and actions. These concepts are briefly described below.

1) *Avoidability*: Resources that can be eliminated (within a reasonable time period) as a result of a decision demonstrate the characteristic of avoidability.
2) *Divisibility*: Resource volumes that are associated with change in the volume or nature of a managerial objective's output demonstrate the characteristic of divisibility.
3) *Interdependence*: More or less interdependence exists in the organization's revenue model to the extent that decisions involving multiple managerial objectives affect the amount or quality of resources available for one managerial objective vs. another.
4) *Interchangeability*: As the organization's resources have the capability to be deployed in multiple managerial objectives, the revenue model demonstrates increasing interchangeability.

With respect to these revenue model characteristics that describe usefulness for management actions, note that *avoidability* and *divisibility* are primarily relevant to analysis activities, while *interdependence* and *interchangeability* relate primarily to decision making.

Focusing on revenue and cost relationships relevant for revenue management, Figure 3 presents a framework that illustrates the character of revenue drivers and draws a connection between revenue drivers and cost drivers.

Figure 3: Revenue Driver Framework

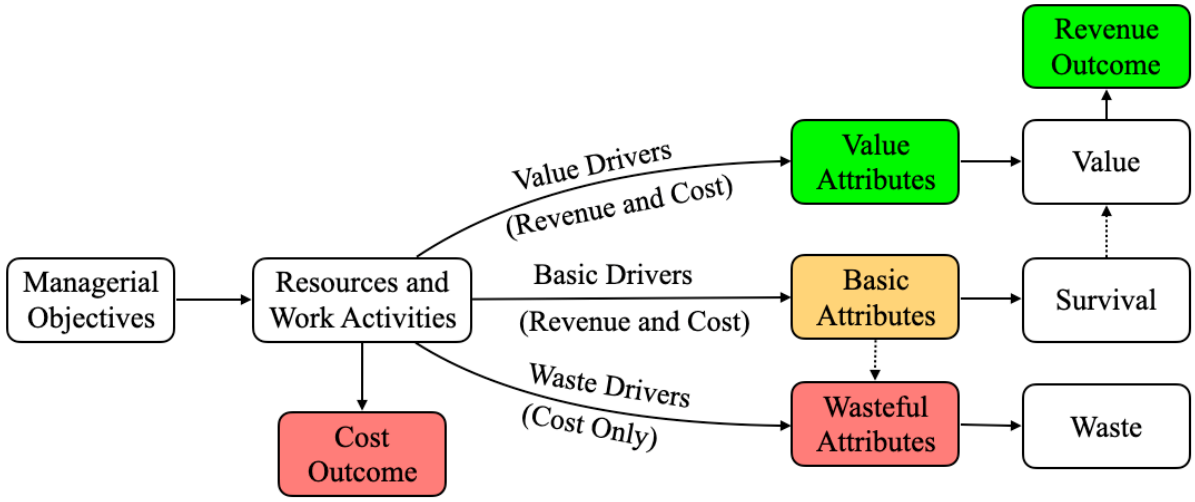

Figure 3 shows that revenue and cost are connected through resources and work activities that are used to deliver goods and services to customer segments. Based on managerial objectives, organizations acquire resources and generate work activity with the goal of delivering value and achieving revenue objectives. All work activities in an organization require resources.[24] Examples of resources include buildings, equipment, labor, inventory, and management.

Attributes determine how resources and work link value to the customer. These are features of the product that customers value, determining customer willingness to pay. Examples of attributes include the final outcome of the product (e.g., one night's accommodation), features of the product (e.g., quality or novelty), and the method of delivery (e.g., convenience, speed of delivery, and friendliness of staff). Service is a defining characteristic of attributes that directly drive customer value, influencing the revenue earned.[25] Together, resources and work activity create revenue based on the value of attributes they produce. That said, it is important to understand that when deciding whether to buy a product, customers assess the attributes they will receive from the product or service (e.g., one night's accommodation), rather than valuing the resources and work activities used by the business (e.g., cleaning the accommodation). The role of resources and work activity in driving revenue is in creating the final attributes. Staff training, for example, can improve the quality of product and delivery method, yet it only adds value through the outcomes it produces for the customer's use.

Customers buy products because of attributes they value and are willing to pay for, thus generating revenue for the business. Resources and activities that combine to create value attributes for a hotel customer, for example, may involve upgraded mattresses, surround-

[24] This is a self-evident assumption that businesses cannot produce positive output with zero input, i.e., there is no free lunch. Conversely, a business can incur cost with zero output; Robert S. Kaplan, "Introduction to Activity-Based Costing, *Harvard Business School Background Note 197-076*, revised July 2001 from February 1997, pp. 1-14.

[25] Vargo and Lusch, 2004.

sound music systems, high-quality room cleaning, and airport transfer service. For manufacturing and retail customers, value attributes often involve innovative product features, product durability, and service after sale.

Resources and work activities are also critical to providing basic attributes that, while essential, do not directly increase revenue. In a hotel business, basic resources and activities may include a parking lot and online invoicing. Customers are frustrated if these basic attributes are not provided, but they do not value these attributes to the point of factoring them into how often they book rooms or how much they expect to pay for a hotel room. Similarly, resources and activities involved in product order fulfillment, for example, are essential but typically not value-adding for the manufacturing or retail customer.

Organizations are constantly battling the problem of resources and work being spent on nonvalue-adding attributes that only produce waste or, worse, frustration for the customer. Misunderstanding customer needs and failure to segment markets can result in delivering attributes that would have no impact on buying or paying more (in contrast to value attributes) or any impact on the decision to purchase if the attribute was removed (in contrast to basic attributes). Quality, delivery time, and product functions that are surplus to customer expectations can incur costs without an increase in customer value. Of course, low-quality and ill-timed resources and work activities will negatively impact customers, causing revenues to decline. Attributes that have no or a negative impact on revenue are waste drivers in the organization.

Figure 3 illustrates the connection that resources and work activities have with costs and demonstrates that connection in relationship to revenue. All initiatives to improve or sustain revenue require resources and work activities to produce value attributes and basic attributes that drive revenue and that drive costs. Cost drivers can involve direct expenditures or the opportunity cost of resources already acquired and activities already put in place. In other words, cost drivers do not always mean that costs will increase. Instead, cost drivers can explain the amount of cost already incurred.

Not all cost drivers are revenue drivers. More resources and activities increase revenue only by increasing the value a customer receives from the product. Accordingly, only resources and work activities that offer value or basic attributes are revenue drivers. Resources and work activities leading to waste attributes should be reduced and the related cost drivers removed from the organization. Another source of costs in the organization that are not related to revenue attributes are the opportunity costs of idle resources (i.e., excess capacity). Idle resources create costs that do not contribute directly to revenue attributes, but idle resources are not necessarily a wasteful attribute in the organization. Idle resources may result from issues involving market demand, management policy, legal requirements, or contractual expectations. If the idle capacity is excessive, then the attending cost is wasteful. On the other hand, if the capacity represents opportunities for flexibility, customization, speed, or development, then idle resources put the organization in a position to create more value attributes. Hence, idle resources can be a potential source of revenue.

Identifying Revenue and Cost Drivers

The revenue model highlights that revenue drivers and cost drivers are connected through resources and work activities. Decision making must simultaneously examine both revenue drivers and cost drivers. This reflects the core focus of businesses on profitable ROI as the ultimate objective and not separately on the revenue and cost components. The absence of a balanced perspective has the potential for dysfunctional decision making, which can harm

overall profitability. Resources and work activities engaged to increase revenue also incur costs, and this combination determines the final profitability of the business.

A key exercise to align management accounting information with revenue management practice is to identify the central revenue and cost drivers in your business. Table 8 provides examples of drivers associated with the levers of revenue management and illustrations of the impact they can have on revenue and cost. The descriptions are designed to apply broadly and trigger discussions in your organization. The examples, likewise, are chosen to provide illustrations from a variety of settings and are not meant to be a comprehensive list.

You can evaluate the importance of each driver in your organization, making sure to identify any new important drivers arising from changes in revenue management practices. You can work with other business functions to model the interactions among drivers with the principles of causality and analogy and find gaps where further management accounting information is needed.

Table 8: Examples of Revenue and Cost Drivers

Pricing Basis Drivers	**Description**	**Driver Example**	**Revenue Impact**	**Cost Impact**
Price points	Diversity of price points served by products/services	Dynamic sales system that enables different prices based on the time of day	Higher prices for time periods of high demand	Higher investment in flexible-response monitoring systems
Special events	Special events that generate increased customer demand	Holiday promotion event offering discount prices	Increased customer demand during the event	Higher operating costs in promoting and running the event
Brand image	Reputation of products/services and organization in the market	Marketing for high-quality products/services	Increased customer demand at higher price points	Increased advertising and quality control costs
Market share	A bigger market share with a greater presence in size and scope	Targeted marketing campaigns to different customer segments	Greater customer awareness of the company's service offerings	Increased marketing costs to preserve and enhance market position
Inventory Allocation Drivers	**Description**	**Driver Example**	**Revenue Impact**	**Cost Impact**
Customer loyalty	Ability to engage and retain existing customers	Training program for frontline employees	Improved customer experience	Increased training costs
Range of customer segments	Serving a diverse range of customer segments	Number of distinct customer groups	Better matching of capacity to customer groups	Higher customer relationship management (CRM) costs
Location of service centers	Being located close to target customers	Main street location	Increased foot traffic	Higher rent
Scale of service	Size of organization and total capacity of production processes	Workforce size and diversity	Increased capacity and capability available for sale	Diseconomies of scale from complexity and monitoring
Product/service range	Diversity of product/service range offered to customers	Number of available product features	Greater flexibility in meeting customer demand	Drives cost through product management needs

Product Configuration Drivers	**Description**	**Driver Example**	**Revenue Impact**	**Cost Impact**
Specialized technology or activities	Technology or activities designed for the production of specialized products or services	Advanced manufacturing equipment used to customize customer products	Higher prices for customized service	Higher investment and operating costs for advanced technology
Close B2B and B2C relationships	Supply chain relationships and customer relationships	Investment in new CRM system to track customer demand patterns	Better matching of production to demand patterns	Higher investment and operating costs
Employee skill and experience	Capability of employees to produce different goods and services	Training employees to produce multiple goods and services	Increased employee flexibility to address customer demand shifts	Increased training costs
Total quality management	The level and consistency of product/service standard	Six Sigma-quality programs in design or production	Increased customer propensity to recommend the product or brand	Increased design review and production control costs
New products/ services	Level and frequency of product or service innovation	Product innovation rate	Increased version rollouts that target value attributes	Additional information costs in educating consumers
Duration Control Drivers	**Description**	**Driver Example**	**Revenue Impact**	**Cost Impact**
Production/service efficiency	The speed with which inputs are converted into product and service outputs	Implementation of new technologies	Increased capacity in time and scope	Higher investment in training and technology
Service lead time	Speed of response to a customer order	Improved processes to increase speed of service delivery	Reduced lead time and variability in response time	Higher training costs incurred for new process designs
Product/service design	Level of complexity of production	Design for manufacture (DFM)	Enhances product/service reliability and functionality	Higher product design cost; offset by cheaper production costs
Capacity utilization	Enabling capacity potential	Incentivizing flexible work schedules	Better matching of capacity to customer demand patterns	Higher coordination and communication costs