CONTROL
CHAPTER 18

Controlling means ensuring that actions of organizational members are consistent with the organization's underpinning values and standards. Controlling is usually taught as the fourth function of management (after planning, organizing, and leading). However, at its best, controlling represents the most thoughtful, reflective, and forward-looking of the four functions of management, and could easily be taught before the other management functions. Controlling demands that managers consider the big picture of an organization's operations and ensure that all the different activities in an organization accomplish what it has set out to do.

FOUR STEPS IN THE CONTROL PROCESS

STEP #1: ESTABLISH PERFORMANCE STANDARDS

Because managers cannot control everything that happens in an organization, they must be selective when they design control systems. In the first step of the control process, managers identify the most important activities that need to be controlled. By doing this, managers can identify and establish a shorter list of *key* performance standards that must be met.

As shown in Figure 18.1, it is useful to think of three dimensions of organizational activities that managers must control. Inputs (hiring employees, acquiring financial resources, access to supplies, and so on.) are resources that must be effectively combined (in a conversion process) in order to produce goods and services (outputs) for specific markets that the organization has targeted. This three-step **value chain**—*the sequence of activities needed to convert an organization's inputs into outputs*—is a crucial tool that helps managers identify and establish key performance standards. Value chains help managers design control systems that minimize the costs associated with waste, over-production, waiting, transportation, inventory, and defects.

Figure 18.1: A conventional value chain

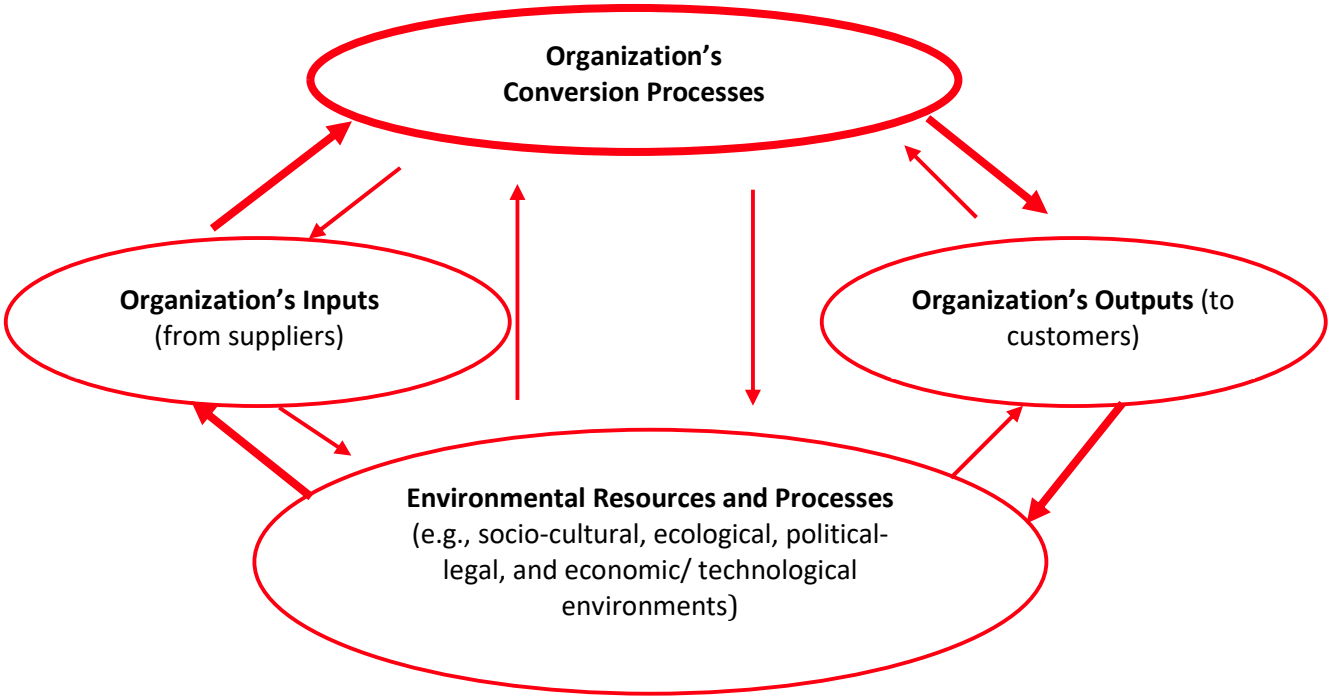
Managers use three types of controls, which correspond to the three basic parts of the value chain: feedforward, concurrent, and feedback controls.

- *Feedforward controls* are designed to reduce organizational problems before they occur by anticipating them and preventing them.

- *Concurrent controls* point to the most important information about an organization's conversion processes, and help managers to identify and correct problems as they occur. This includes things like standard operating procedures, detailed job descriptions, and quality control.
- *Feedback controls* are designed to identify and correct problems after they occur so as to avoid future problems. This might include performing exit interviews with employees who leave the firm, ensuring the return rate on financial investments meets targets, and monitoring sales for trends and surprises.

Approaches to establishing performance standards

FBL management emphasizes controls that can be quantified and written down. These standards may be expressed in terms of standard operating procedures, specifications for input components, piece-rate pay systems, and the constraints and targets built into departmental budgets. TBL managers also use the four performance standards described above but, in situations where it is in their financial interests, they add a link between an organization's outputs and its inputs, which is consistent with an emphasis on reducing negative externalities. In other words, TBL organizations (and SET organizations) emphasize value *loops* instead of value *chains*. A **value loop** *describes how an organization's inputs are converted into outputs, which in turn are linked to the organization's future inputs.*



For SET and TBL management, the FBL idea of a value chain has two key drawbacks.

- First, it ignores socio-ecological externalities. The "Environmental Resources and Processes" element at the bottom of Figure 18.2 helps managers to understand how organizational activities contribute to, and resolve, social and ecological problems in the larger system. Value loops draw attention to externalities associated with both inputs and outputs.

- Second, value chains move in only one direction: inputs→conversion→outputs, whereas value loops explicitly recognize that the flow of resources travels in *both* directions between the links. These "opposite direction" flows affect the control process. For example, when managers in fast food restaurants began to receive requests for food prepared in a healthier fashion (i.e., grilled not fried, fruit instead of fries), that affected the companies' conversion processes.

Whereas FBL and TBL standards place a primary emphasis on maximizing financial interests, efficiency, and achieving competitive advantage, SET management key values and standards include interpersonal trust, democracy, and the flow of empowering information. These values and performance standards are evident at Semco, perhaps the best-known example of SET control. If Semco can achieve these performance measures consistent with SET management, then Ricardo Semler is confident that other goals—like financial viability, meaningful work, motivated employees, and work-life balance—will follow. For Semler, measures of productivity and the financial bottom-line are a *means*—obviously a very important means—to this larger *end*. As Semler notes, the key is to involve other stakeholders in *developing* the appropriate measures: "By evaluating success from everyone's point of view, we believe we'll land on the new list of companies that unite sustainability with all-around satisfaction. Let's call this list the Fortunate 500. … Redesigning the workplace for the twenty-first century means letting in fresh air and giving up control."

TBL and SET performance measures are becoming increasingly commonplace, incorporating tools being developed for the balanced scorecard approach, and for social and ecological audits. For the most part, this includes measuring social and ecological performance in ways that FBL management has typically avoided, including measuring things like meaningful work, work-life balance, happiness, social justice, and so on. Some existing societal measures that use such an alternative performance approach include the Genuine Progress Index and Gross National Happiness Index.

STEP #2: MONITOR PERFORMANCE

Once managers understand the critical steps in value chains/loops and have identified the key performance standards to be met, they must develop appropriate information systems that allow them to monitor performance. An organization's **information system** *consists of its mechanisms that identify, collect, organize, and disseminate information.* Information systems are important for each of the four functions of management: planning, organizing, leading and controlling. Information is especially important for decision-making. Spending on information technology accounts for more than half of all the money organizations spend on capital annually (more than $1 trillion). Information systems are important in each phase of the control process, but perhaps most evident in allowing managers to monitor performance.

Conceptually, perhaps the most important thing an information system does is it allows managers to determine what is considered to be valuable information, versus what is considered to be merely data. **Data** *are facts and figures, some of which managers deem to be useful but the majority are not*. **Information** *refers to data that have been given meaning and value.* Managers design control and information systems to monitor meaningful data. For FBL and TBL management, meaningful data are those that help to maximize productivity and financial well-being, and thus are deemed to be information. Data that do not help to achieve these goals are not considered information from an FBL perspective.

The SET approach to monitoring performance

SET management monitors the widest scope of socio-ecological performance and is most likely to emphasize bottom-up control systems. For example, as we saw in the opening case, the SET approach is most likely to use management information systems to empower workers. Along the same lines, SET management is more likely to be attracted to software like electronic hubs (eHubs) which allow information to be transmitted in real-time among all stakeholders, thereby enabling coordination and mutual adjustment by stakeholders from a variety of organizations.

The SET approach is particularly aware that members treat one another more respectfully when there are no monitoring systems. For example, Semco—which places primary emphasis on nurturing trust, dignity, and information-sharing—does not set up structures and systems like internal audits or inspections to monitor whether workers are complying with organizational regulations (though they must comply with governmental regulations).

STEP #3: EVALUATE PERFORMANCE

During this step, managers compare the information collected in the second step to the goals or standards established in the first step. This allows managers to answer questions such as: Have quality standards been met? Is the "liquidity ratio" within the desired range? Are inventory levels acceptable? Has a salesperson's performance improved as planned? During this step, managers must decide whether extenuating circumstances help to explain variations in performance. For example, did a competitor introduce a new product, or go bankrupt? Were there unforeseen shifts in the industry, or in the overall economic picture? Were any employees experiencing health problems that affected their performance?

- FBL managers tend to evaluate the performance of individuals more than of groups. This is evident in piece-rate compensation systems, where employees are paid based on how many widgets they produce or by how many sales they make, by giving "employee of the month" awards, by paying bonuses for employees who meet certain targets, and so on. The focus is on setting rational and quantifiable SMART goals—Specific, Measurable, Achievable, Results-based, and Time-specific — for each individual.

- TBL management is more likely to be attuned to the growing awareness that the performance of individuals is often influenced by systemic factors outside of their control. Perhaps the best example of this comes from **Total Quality Management (TQM)** *which emphasizes how managers can continuously improve organizational work systems so that products and services better meet the quality desired by customers*.
- SET management is similar to TBL management, except that the SET approach relaxes the emphasis on maximizing financial well-being, involves even more stakeholders, and is more likely to consider qualitative evaluations. Compared to FBL management, both SET and TBL management are more likely to involve more stakeholders in evaluating performance, as is evident when an organization's annual report includes social audits prepared by external evaluators, when managers are evaluated by the people who report to them, and when external stakeholders are invited to participate in decision-making processes.

Overall, SET and TBL approaches place greater emphasis on relational and qualitative measures of performance than the rational and quantifiable measures associated with the FBL approach. Recall from Chapter 9 that SET management emphasizes SMART 2.0 goals: Significant, Meaningful, Agreed-up, Relevant, and Timely.

STEP #4: RESPOND ACCORDINGLY

Responding accordingly is an ongoing activity that can happen at any step in the control process. For example, if input standards are not being met, then it may be time to reconsider suppliers. If the conversion process standards or output standards are not being met, it may mean offering training or professional development to correct the behavior, transferring staff to other jobs that they are more capable of handling, or dismissing certain employees.

Compared to TBL and SET approaches, FBL managers are more likely to focus narrowly on whether a firm's financial performance standards are being met, and to take a short-term, financially-driven, unilateral, top-down approach to responding accordingly.

Compared to the FBL approach, TBL managers place greater focus on sustainable development, and on a relational, multilateral, bottom-up approach to responding whenever these enhance an organization's financial well-being. When TBL managers encounter inadequate performance, they are more likely to seek help from others to understand why it occurred and to develop a way to resolve the problem.

SET management places even more emphasis on socio-ecological well-being and on having members get involved in responding accordingly when performance standards are not met. This is consistent with designing information systems that empower the members, as in the opening case at Westward

Industries. Ricardo Semler is often asked: “How do you control a system like the one at Semco?” He answers: “I don’t. I let the system work for itself.”

Control, Information Systems, and the Business Functions

The control function is supported by and closely related to the information systems embedded in the main functions of business (e.g., human resource management, accounting, finance, supply chain management, operations management, and marketing). Table 18.3 shows how the business functions provide well-established information systems to manage the different parts of the value chain for each of the three main domains of management: people, finances, and other resources/organizations. Note that Table 18.3 is relevant for the FBL, TBL, and SET approaches, but that the “value loop” in the lower of the part of Table 18.3 applies only to TBL and SET management. Note also that the business functions often go beyond the focus that we describe below (e.g., marketing can also inform an organization’s inputs and conversion processes). In the following tables, we provide a brief overview of each functional area, and describe how it differs for FBL versus TBL versus SET management.

Table 18.3: Three domains and five business functions of the controlling process

Three elements of a value chain / The three domains of management	INPUTS (e.g. acquiring resources) →	CONVERSION PROCESS (e.g., using the resources) →	OUTPUTS (e.g., providing goods and services)
1. Managing people	HUMAN	RESOURCE	MANAGEMENT
2. Managing finances	FINANCE (raising money)	ACCOUNTING	FINANCE (investing money)
3. Managing other resources and organizations	SUPPLY CHAIN MANAGEMENT	OPERATIONS MANAGEMENT	MARKETING

VALUE LOOP
(only for TBL and SET management)

HUMAN RESOURCE MANAGEMENT (HRM)

Table 18.4: Three approaches to human resource management

	FBL	TBL	SET
Inputs (job analysis and staffing)	HRM professionals: (a) identify the knowledge, skills, abilities, and other characteristics (KSAO's) that an organization needs, and then (b) recruit and select members who have the desired KSAO's.	A TBL approach is consistent with FBL practices, unless there is a business case that supports the adoption of SET practices.	A SET approach is more likely to develop KSAO's for *teams* (rather than *individuals*) and to gather input from team members and other stakeholders (e.g., customers, other departments in the organization), versus relying on HRM professionals. Also, the SET approach is more likely to recruit members from chronically underemployed groups (e.g., Greyston Bakery).
Conversion process (training, development, motivation)	Provide members with appropriate opportunities for job-based training and development.		Provide members with job-based and beyond-job-based training and development (e.g., SET encourages employers to pay for employees' schooling even when it does not develop a specific KSAO for the firm).
Outputs (performance appraisals, compensation)	HRM professionals set up and carry out performance appraisals linked to compensation systems (includes salary and benefits).		Employee performance appraisals are designed to stimulate members' *growth and development*, rather than using them to decide *on pay raises and promotions.* Compensation packages seek to minimize the differences between hierarchical levels (income inequality) and to pay above-industry-level wages for lower paid positions (e.g., a living wage).

FINANCE

Table 18.5: Three approaches to four axioms of finance

Axiom	FBL	TBL	SET
Inputs: The risk-return trade-off	Investors will accept extra financial risk only if there is a higher potential financial payoff.	A TBL approach is consistent with FBL practices, unless there is a business case that supports the adoption of SET practices.	Investors will accept additional risk if they expect higher non-financial returns (e.g., if the investment en-hances socio-ecological well-being).
Inputs: The time value of money	A dollar *available* today is more valuable than a dollar available in the future, because the dollar available today can collect interest or be invested in a profitable project, thereby making it worth more in the future.		A dollar *spent* today on a worthwhile cause is worth more than a dollar available in the future because the dollar spent today can save a life that would be gone tomorrow, or provide employment for someone who needs a job and wants to become a contributing member of society ("a stitch in time saves nine").
Outputs: The challenge of markets	Because of the competitive dynamics inherent in a well-functioning and efficient financial marketplace, earning exceptional financial returns can only be accomplished by achieving a sustainable competitive advantage and/or a monopoly.		Because of the cooperative dynamics inherent in a well-functioning and holistic market, any member who takes exceptional financial returns and creates dysfunctional income inequality would be seen as threatening community well-being and frowned upon (recall that the original idea of a "market" was a place where members of a community would gather, visit, and arrange to buy and sell goods and services.)
Outputs: The challenge of agency (agency refers to managers as agents acting on behalf of owners)	*The Agency Problem:* Because they are not owners, managers will be tempted to act in their own self-interests rather than to maximize the owners' financial interests. Compensation packages should align managers' financial self-interests with the owners' self-interests.		*The Agency Solution:* Because (unlike typical owners) managers have a daily involvement in the firm, they may thus be more sensitive and can be more responsive to employees, suppliers, customers, neighbors, the environment, and so on.

ACCOUNTING

Table 18.6: Three approaches to interpreting the basic assumptions underpinning GAAP

Assumption	FBL	TBL	SET
Entity What unit of analysis is being held accountable?	The entity is the organization, narrowly defined as an individual unit clearly separated from its owners, members, and society.	A TBL approach is consistent with FBL practices, unless there is a business case that supports the adoption of SET practices.	The entity is the organization, broadly defined as a multi-faceted entity intimately connected with its owners, members, and society.
Unit of measure For what is the firm held accountable?	The unit of measure is money, and the firm is accountable to maximize its financial well-being (e.g., its assets minus its liabilities).		There are multiple measures (e.g., money, ecological footprint, work), and the firm is accountable to balance multiple forms of well-being for multiple stakeholders.
Periodic reporting How often is information presented?	Reporting is according to calendar-time (linear, quarterly, annual), serving the interests of short-term investors.		Reporting takes into account the natural rhythms/seasons of organizational life, serving the interests of long-term stakeholders.
Going concern assumption What criteria are used to decide whether an entity is viable?	Assessing whether an organization is a financially-viable "going concern" focuses on: (i) a one-year time horizon, (ii) financial measures, and (iii) the level of analysis of the single entity (ignoring non-financial externalities).		Assessing whether an organization is a holistically-sustainable "going concern:" (i) has a long-term time horizon (e.g., considers future generations), (ii) takes into account multiple forms of well-being, and (iii) considers the organization's positive and negative socio-ecological externalities.

SUPPLY CHAIN MANAGEMENT

Table 18.7: Three approaches to supply chain management

	FBL	TBL	SET
Strategic Purchasing	Choose suppliers who offer the best combination of: - Quality inputs (e.g., they have required features and meet specific standards); - Dependable delivery (e.g., on-time delivery, reliable transportation network); - Price (also includes factors like just-in-time delivery).	A TBL approach is consistent with FBL practices, unless there is a business case that supports the adoption of SET practices.	Choose suppliers who offer the best combination of: - Inputs that have a holistic range of qualities (incl. consideration of socio-ecological externalities); - Dependable delivery, including sustainable transportation networks; - Low total costs (i.e., including externalities).
Relationships between firms	Develop long-term relationships with suppliers nurturing: - Trust (increased access to supplier knowledge helps to develop products and services); - Supplier confidence to make long-term investments that enhance ability to supply; - Stable and integrated transportation of incoming logistics (lower financial costs).		Develop long-term relationships with suppliers that nurture: - Trust and healthy relationships (facilitate virtue and nurtures community); - Supplier confidence to invest in environmentally-friendly and socially-just technologies; - Development of incoming logistics that take externalities into account.

OPERATIONS MANAGEMENT

Table 18.8: Three approaches to four key dimensions of operations management

	FBL	TBL	SET
Quality of the products and services being created	Provide products/ services whose features and reliability are appropriate for the customer market being served.	A TBL approach is consistent with FBL practices, unless there is a business case that supports the adoption of SET practices.	Provide products and services whose features and reliability are appropriate for the customer market being served, and beyond (e.g., long-term socio-ecological well-being).
Dependability of delivering products and services	Provide timely and reliable delivery of products and services (which allows charging a premium price and thus enhanced profits).		Provide timely, reliable, and appropriate delivery of products and services, taking into account socio-ecological externalities of different modes of delivery.
Flexibility/ Speed of creating products and services	Ensure that products and services can be easily customized or changed to meet customer needs.		Ensure that products and services can be easily customized or changed to meet customer needs (and the needs of society beyond the customer).
Cost of creating products and services	Aim for the lowest *financial* expenditure possible to offer products and services (taking into account the desired quality, depend-ability, and speed).		Aim for the lowest total costs (i.e., including externalities) to offer products and services (taking into account the desired quality, dependability, and speed).

MARKETING

Table 18.9: Three approaches to the four Ps of marketing

Four Ps	FBL	TBL	SET
Product: Goods and services sold in the marketplace	Offer products that satisfy wants or needs in the market.	A TBL approach is consistent with FBL practices, unless there is a business case that supports the adoption of SET practices.	Offer products that focus on meeting needs rather than wants, and on creating positive socio-ecological externalities.
Price: The amount of money (and other effort) a consumer pays for a product	Set a price that maximizes profits.		Price includes socio-ecological externalities and includes a firm's (and a consumer's) contribution to social justice and value creation.
Place Physical and virtual marketplaces where consumers can purchase goods and services	Provide convenient and cost-effective marketplaces.		Offer socio-ecologically sustainable places (e.g., green buildings) and distribution channels (e.g., cradle-to-cradle designs), recognizing a firm is not a self-contained unit competing with others, but rather a member of a stakeholder network.
Promotion Unified messages that are clear, consistent and compelling, and create awareness, educate, persuade, and connect with consumers	Develop promotion strategies that maximize an organization's financial well-being.		Develop promotion strategies that encourage sustainability, challenge conventional social norms about consumerism, and foster and enable stakeholders to exchange ideas about enhancing socio-ecological well-being.