

CHAPTER 17

THE FORK MODEL FOR QUALITY MANAGEMENT: PRONG 2, OR CROSS-FUNCTIONAL MANAGEMENT

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Chapter Objectives

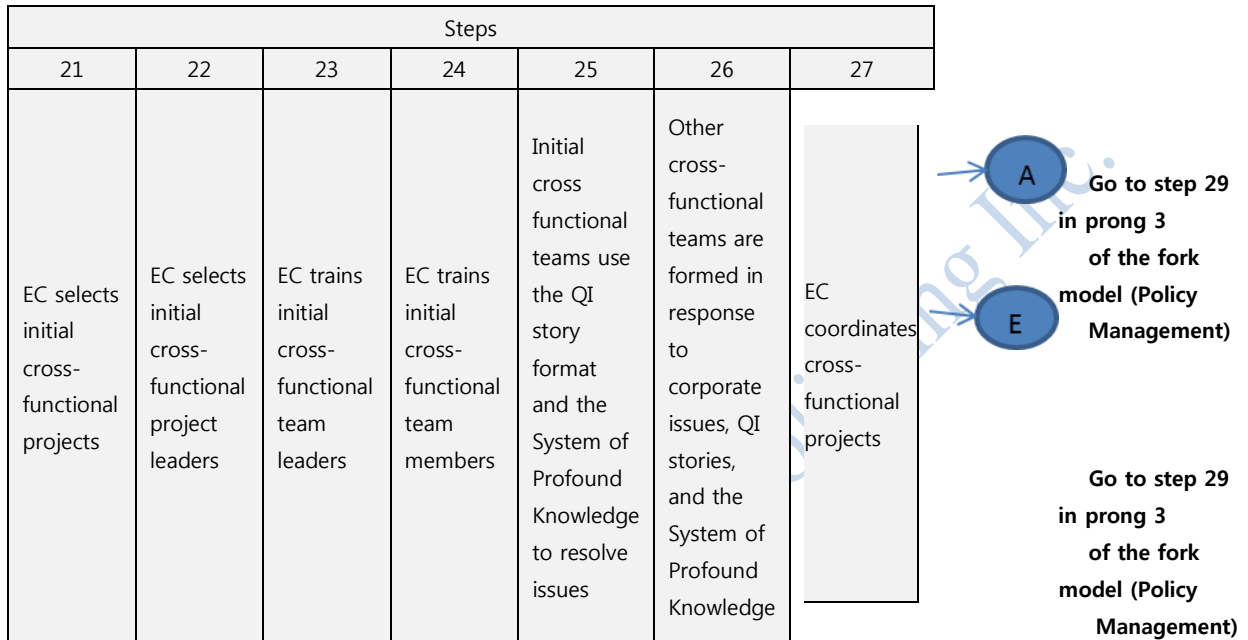
- To describe the primary and auxiliary areas appropriate for the application of cross-functional management
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- To describe and illustrate the steps in implementing cross-functional management
- To discuss how to structure cross-functional management teams in small and large organizations, and how to coordinate multiple teams
- To discuss and illustrate problems which can arise in implementing cross-functional management with respect to longevity, membership, focus, resources and communication
- To illustrate the improvement in a cost cutting process by using cross-functional management rather than traditional methods
- To illustrate the application of cross-functional management in new product development
- To illustrate the application of cross-functional management in creating a performance appraisal system

17.1 Introduction

In this chapter, we explain what is required to develop, standardize, deploy, maintain, improve, and innovate methods that cross areas in an organization.

Cross-Functional Management is Prong 2 of the quality management model, as shown in Figure 17.1.

Figure 17.1
Prong 2 of the Fork Model: Cross-Functional Management



Cross-functional management is critical to the quality management model because it weaves together the vertical (line) functions of management with the horizontal (interdepartmental) functions of management [Kurogane, 1993, pp. 33-36]. Kaoru Ishikawa states “in order to be called a fabric, both horizontal and vertical threads need to be woven together, and only when horizontal or cross-functional management threads are woven together with vertical threads can a company be considered similarly cohesive” [1981, pp. 4-5]. Cross-functional management is important because it promotes the reorganization of corporate management systems to improve interdepartmental communication and cooperation, and provides clear lines of responsibility for that reorganization.

The primary areas for the application of cross-functional management include quality management (quality control and quality improvement), cost management (profit management, expense management, and cost reduction), delivery management (production quantity management, delivery date management, and production system management), and personnel management (human development, education, and work morale enhancement). Quality and cost are usually the first areas to receive attention in cross-functional management.

The auxiliary areas for the application of cross-functional management include new product development (R and D, technology development, and production technology), sales management (marketing, sales activity management, and sales expansion), safety management (safety/hygiene control, labor safety control, and environmental control), and QC promotional support (QC circle standardization). Primary cross-functional areas are permanent. Auxiliary cross-functional areas change according to current and expected conditions.

17.2 Selecting Initial Cross-Functional Teams

The members of the **Executive Committee (EC)** form initial cross-functional teams, as shown in step 21 of the detailed fork model in Figure 17.1. The EC selects a leader for each team, as shown in step 22 of Figure 17.1 and allocates appropriate resources for the education and training of the leader, as shown in step 23 of Figure 17.1. Each cross-functional leader should be an executive with the title of Senior Vice President or Vice President in charge of a function. The EC uses the recommendations of the team leader to select members for the initial cross-functional teams, as shown in step 24 of Figure 17.1. Team size is kept to a minimum, generally about five people. All team members are trained in appropriate theory and practice, as shown in step 24 of Figure 17.1. Team members should be executives with the rank of director or above. Team members do not all have to come from affected areas. A diversity of opinion and knowledge is helpful, but it is not necessary to have all affected areas represented on a cross-functional team. The team facilitator should be an executive in charge of a function, such as Human Resources. The support staff for a cross-functional team should be from the facilitator's home department because the facilitator needs to have the authority to make things happen for his or her cross-functional team [Kurogane, 1993, p. 45].

17.3 Implementing Cross-Functional Management

Cross-functional management, or Prong 2 of the detailed fork model, involves the following activities:

- Studying and applying Deming's System of Profound Knowledge (SoPK) to company-wide systems.
- Developing measurements for company-wide systems.
- Coordinating and optimizing company-wide systems within departmental methods.
- Allocating resources for cross-functional and departmental methods by establishing targets.
- Ensuring that each department performs its deployed methods in daily management.
- Monitoring company-wide systems in respect to targets from a corporate level (management review).

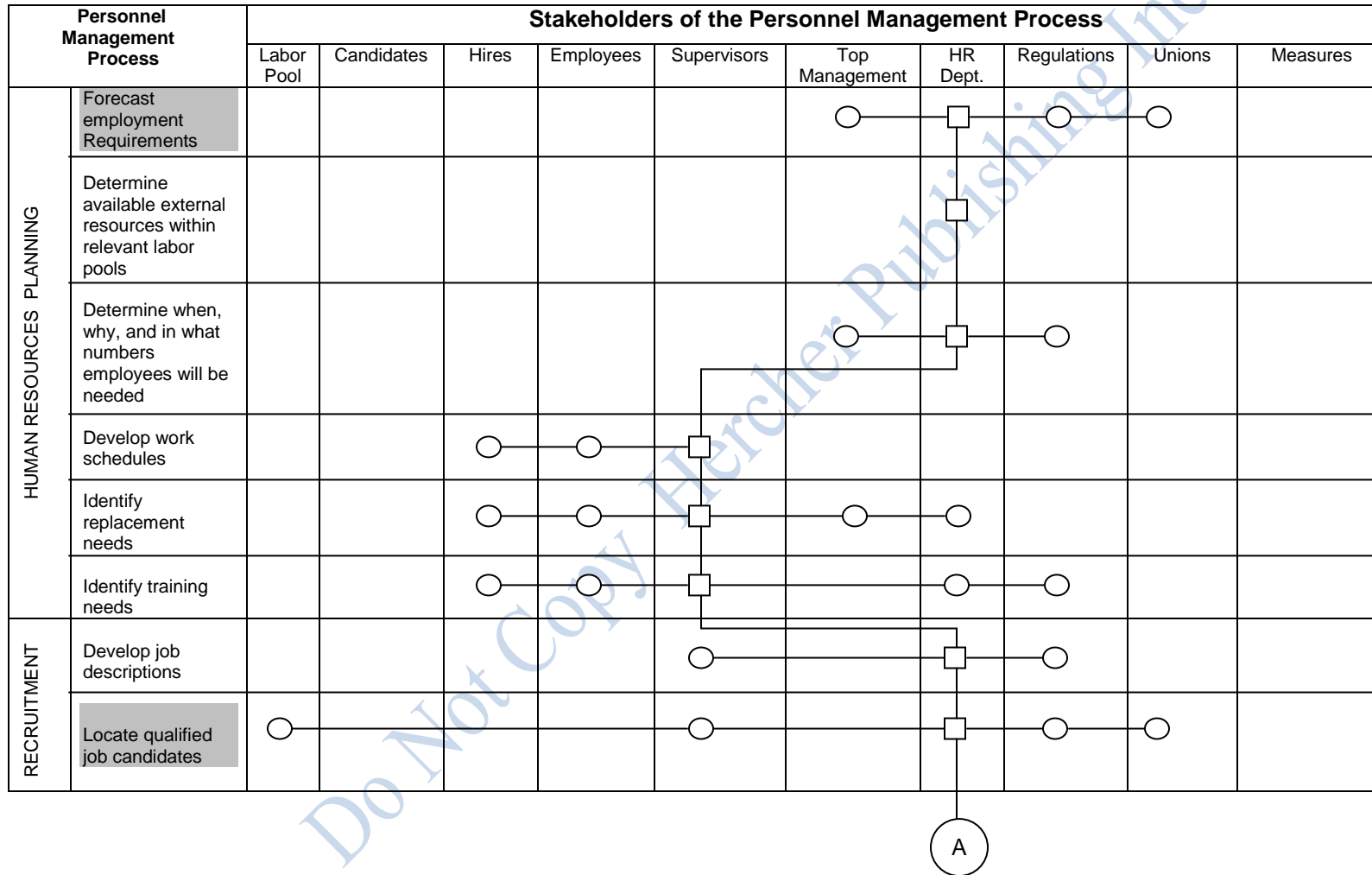
- If necessary, taking action utilizing the PDSA cycle to decrease the difference between actual results and targets (variance analysis).

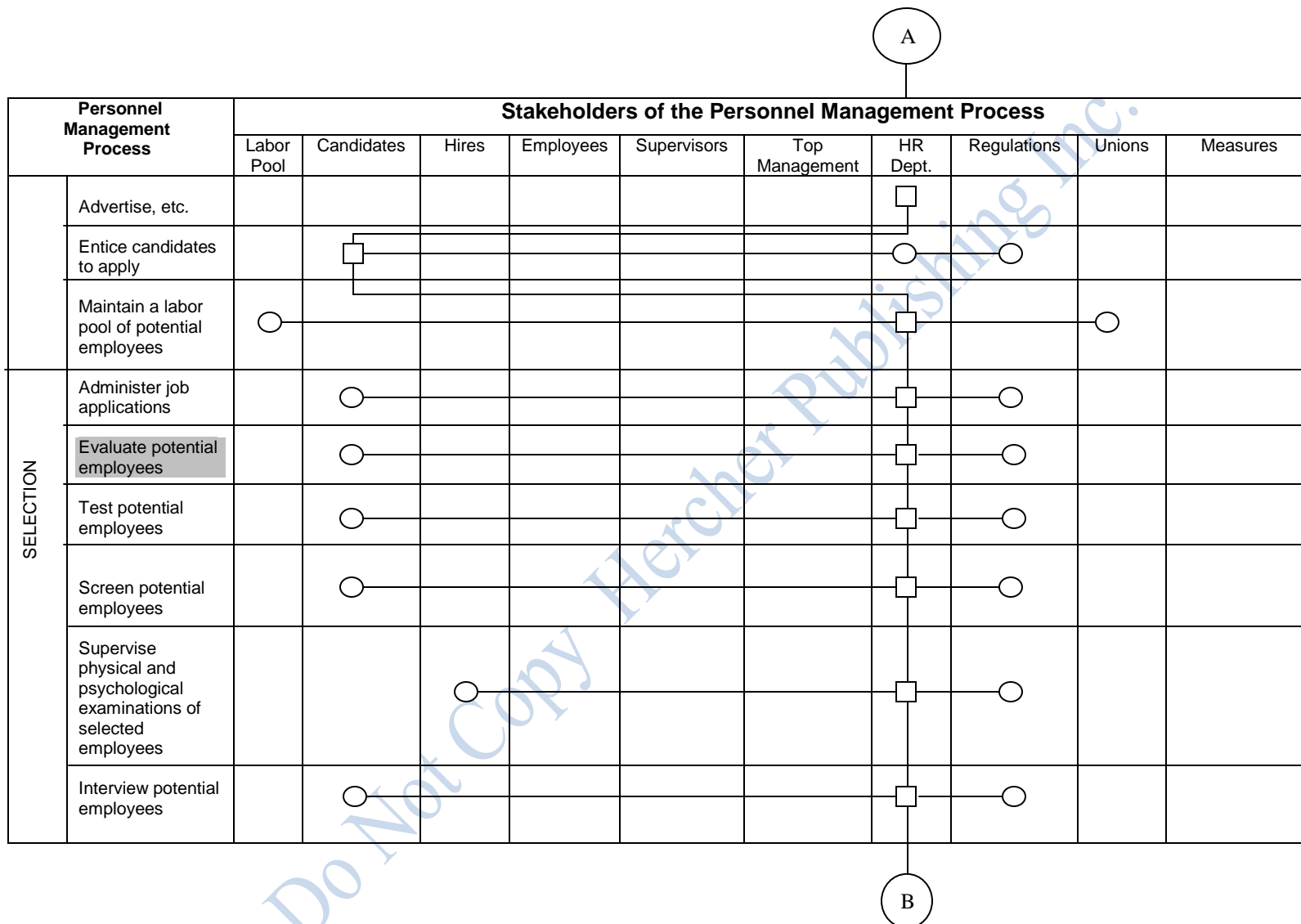
The following steps are used to implement cross-functional management [Mizuno, 1988, p. 108]:

1. Clarify the purpose or aim of the cross-functional management effort. Is it to deploy a cross-functional process into a division or department to achieve a rational divisional or departmental target? Quality improvement and cost reduction are examples of cross-functional processes deployed into divisional or departmental processes to attain a rational divisional or departmental target. Or, is the purpose of cross-functional management to improve a divisional or departmental process that affects areas across the organization to achieve a rational divisional or departmental target? R&D and human resources are examples of divisional or departmental processes that affect areas across an organization and must be improved to attain a rational target.
2. Prepare a list of the divisions or departments that will participate in the proposed cross-functional team.
3. Construct an **integrated flowchart** of the proposed process: a flowchart arranged in a matrix format with stakeholders, tools, and documents of the process as the columns, and steps of the proposed process under study in the rows. The listing of each step in the proposed process should include the required activities and needed items, the individual or group responsible to perform the activity, and the persons responsible for the results of the activity. The cells of the matrix indicate the relationships between stakeholders, tools and documents, and the steps of the proposed process. An example of an integrated flowchart for a personnel management process appears in Figure 17.2.
4. Create measures to monitor the existing and proposed processes.
5. Identify and select priority projects using the proposed process and measures developed by team members. Application of the System of Profound Knowledge is the key to effective cross-functional management. With respect to quality, such a project might reduce the number of customer complaints. With respect to cost, such a project might decrease the cost to manufacture a product.

As expertise is developed with company-wide systems, it is deployed into daily management methods where appropriate, as shown in step 25 of Figure 17.1.

Figure 17.2
Integrated Flowchart of the Personnel Management Process

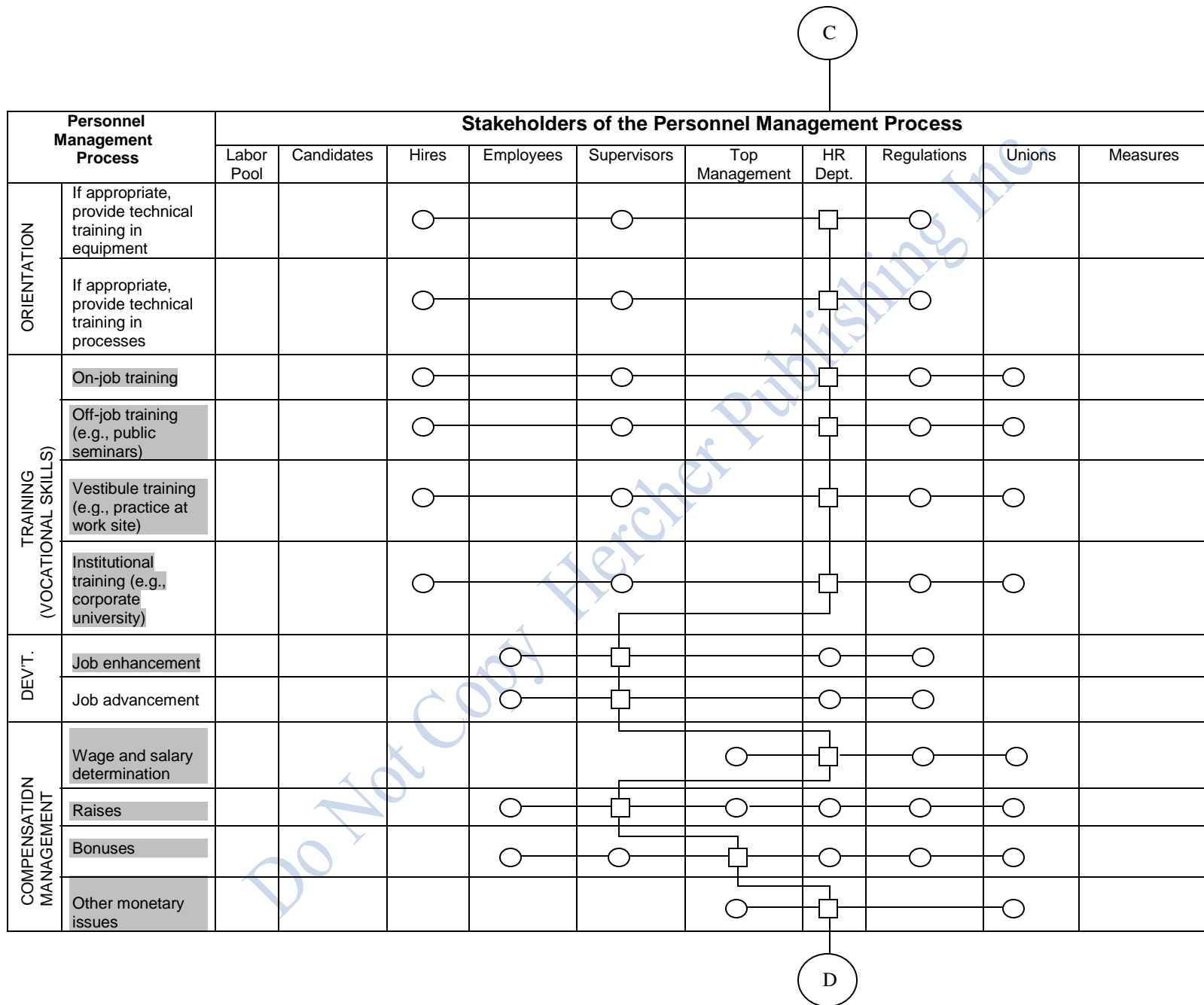




B

Personnel Management Process		Stakeholders of the Personnel Management Process									
		Labor Pool	Candidates	Hires	Employees	Supervisors	Top Management	HR Dept.	Regulations	Unions	Measures
	Select finalists		○					□			
	Send finalists to Hiring department		○			○		□			
	Interview potential finalists		○			□					
	Select hiree		○			□	○	○			
	Hire employee			○		○	○	□	○	○	
	File paperwork							□	○		
ORIENTATION	Familiarize employees with company policy			○				□	○		
	Familiarize employees with safety codes			○				□	○		
	Familiarize employees with objectives			○		○		□	○		
	Familiarize employees with work expectations			○		○		□	○		
	If appropriate, provide technical training in specific work conditions			○		○		□	○		

C



D

Personnel Management Process		Stakeholders of the Personnel Management Process									
		Labor Pool	Candidates	Hires	Employees	Supervisors	Top Management	HR Dept.	Regulations	Unions	Measures
BENEFITS MANAGEMENT	Pension plans				○	○	○	□	○	○	
	Insurance plans				○	○	○	□	○	○	
	Workers' compensation				○	○	○	□	○	○	
	Dental plans				○	○	○	□	○	○	
	Educational benefits				○	○	○	□	○	○	
	Vacation plans				○	○	○	□	○	○	
	Sick pay				○	○	○	□	○	○	
	Recreational plans				○	○	○	□	○		
	Health care				○	○	○	□	○	○	
	Maternity leave				○	○	○	□	○	○	
	Day care				○	○	○	□	○		
	Use of company vehicles				○	○	○	□	○		
EMPLOYEE RELATIONS	Resolve personal problems				○	□		○	○		
	Improve employee performance				○	□		○	○	○	

E

E

Personnel Management Process	Stakeholders of the Personnel Management Process									
	Labor Pool	Candidates	Hires	Employees	Supervisors	Top Management	HR Dept.	Regulations	Unions	Measures

	Safety				○	□		○	○	○	
	Health				○	□		○	○	○	
	Collective bargaining				○	○	○	□	○	○	
	Relationships between management and legally constituted employee unions and associations						○	□		○	
PERFORMANCE	Appraise subordinate's behavior				○	□		○			
	Provide feedback for improvement				○	□		○			
TRANSFERS	Change in employee's job				○	○	○	□	○	○	
	Change in employee's position (promotion or demotion)				○	○	○	□	○	○	
TERMINATIONS	Quit				□	○		○	○	○	
	Fired				○	□	○	○	○	○	
	Retired				□	○		○	○	○	
	Death				□	○		○	○	○	
	Layoff				○	○	□	○	○	○	

17.4 Structures for Cross-Functional Management

Several administrative structures can be used to promote cross-functional management. In small organizations, one cross-functional team comprising all relevant executives can be established to coordinate and optimize company-wide systems. In large organizations, one cross-functional team comprising appropriate executives can be established to coordinate and optimize each company-wide system. For example, there could be one team for quality management, one team for safety/hygiene management, and so on. Another alternative for large organizations is to allow a functional department to coordinate and optimize one company-wide system. For example, the Human Resources Department could coordinate and optimize the company-wide systems dealing with the enhancement of employee morale.

Frequently, executives claim that they do not have time for cross-functional management due to the demands of their daily routine. It may be necessary for these executives to exercise daily management to remove non-value-added routines from their schedules to free up time for cross-functional management.

Cross-functional teams report directly to the members of the EC and have the highest level of decision-making authority. They perform the Plan and Study phases of the PDSA cycle for company-wide systems. Implementation of company-wide systems, the Do and Act phases of the PDSA cycle, is carried out by line departments in daily management.

17.5 Coordinating Cross-Functional Teams

As the initial cross-functional teams successfully improve company-wide systems, the EC will form new cross-functional teams, as shown in step 26 of Figure 17.1. The EC reviews, manages, and coordinates all cross-functional teams, as shown in step 27 of Figure 17.1.

A cross-functional management review of the line departments affected by cross-functional policy is conducted by a cross-functional team leader, one or more times per year, in order to study departmental management from a company-wide perspective, and provide feedback to line departments and the cross-functional team for the next year. Line departments report their progress with implementing cross-functional policy by filing a cross-functional management report. The cross-functional team collects all departmental cross-functional management reports and uses them as a basis for conducting reviews and taking action. In addition, the cross-functional management team reports their findings to the EC.

Cross-functional teams generate projects that may be sent to the **Policy Deployment Committee**, as shown in step 29 of Figure 17.1, and discussed in

Chapter 18, or a **Local Steering Team** for action, as shown in step 30 of Figure 17.1.

17.6 Some Common Problems in Implementing Cross-Functional Management

Cross-functional activities, due to their interdisciplinary structure, are ripe for misunderstandings between team members, and between team members and the rest of the organization. For example, a cross-functional team working on the budgeting and planning process can easily create confusion, resentment, and fear among the members of an organization. This happens when the cross-functional team changes the methods for allocating resources to departments and thereby reduces a department's ability to predict its budget line in the short term.

Some common mistakes that are made when cross-functional teams are established are discussed below, covering the longevity, membership, focus, resources, and communication of cross-functional teams.

17.6.1 Longevity

Cross-functional teams are permanent committees that deal with the continuous improvement of important company-wide systems over the long term. Dissolving a cross-functional team after its members have solved some problem in a company-wide system is not advisable. For example, a cross-functional team would be established to improve the company-wide safety/hygiene system over the long term, as opposed to created to deal with a rash of industrial accidents in the short term.

17.6.2 Membership

Cross-functional teams need not include representatives from all areas affected by their policy; including members from all areas on a cross-functional team may make the team too big to manage well. For example, a cross-functional team that addresses cost management does not have to include representatives from all areas in an organization.

17.6.3 Focus

Cross-functional team members must transcend the boundaries of their own areas. A person from the production area learns to think in terms of the entire system of interdependent stakeholders when addressing company-wide systems, not from the perspective of the production area. People on cross-functional teams who represent their own special interest groups, not the welfare of the entire organization, are not ready to participate on a cross-functional team; they need further training.

17.6.4 Communication

It is extremely important that cross-functional policy be communicated to all relevant members of an organization's interdependent system of stakeholders. Only through communication can people understand and buy into the company-wide changes that can emanate from a cross-functional team. Recall from step 10 of Figure 17.1, that the diffusion of a new idea, in this case a cross-functional policy, requires a specific plan of action which is based on the appropriate theories of communication.

17.7 A Generic Example of Cross-Functional Management: Standardization of a Corporate-Wide Method for Cutting Cost

This section demonstrates how cross-functional management utilizes the System of Profound Knowledge to create new processes to resolve existing problems in corporate-wide processes. The corporate-wide process examined in this section is the cost-cutting process.

17.7.1 Traditional Cost-Cutting Process

A common process for cutting costs $x\%$ or $\$y$ consists of three steps. First, managers build up a layer of inefficiency over time. For example, if a job becomes obsolete due to computerization, the person holding the job is transferred to other work or let go, but the job is not deleted from the payroll. If the manager is asked to cut cost by $x\%$ or $\$y$, she puts forth the hidden resources from the obsolete job. Second, managers identify non-essential expense items. For example, in some departments training dollars or gifts/awards dollars or travel dollars are non-essential to the functioning of the department. If the manager cannot cut her costs $x\%$ or $\$y$ using the method in the first step, she will cut non-essential expense items in the budget, in part or in whole. Third, managers prioritize essential expense items for budget cuts. For example, managers may rank their personnel from most meritorious to the least meritorious, or from most senior to most junior. If the manager cannot cut her costs $x\%$ or $\$y$ using the methods in the first and second step, she will begin to cut essential expense items until the required $x\%$ or $\$y$ cost cut is achieved in her area.

The above process for cutting costs causes managers to hide resources from top management. Frequently, these hidden resources are desperately needed elsewhere in the organization. This results in sub-optimization of the organization as a whole.

17.7.2 Cross-Functional Management Cost-Cutting Process

A cross-functional management cost-cutting process is used by a manager to attain a rational x% or \$y decrease in costs using process improvement in her area. The following steps explain how the manager applies a cross-functional management process in her daily management.

1. Clarify the purpose or aim of the proposed daily management process in terms of an x% or \$y cut in costs. The x% or \$y cut in costs should not be an arbitrary numerical goal, but rather, it should be based on actual information, such as breakeven analysis.
2. Prepare a list of the divisions or departments that are affected by the proposed daily management process.
3. Construct an integrated flowchart of the proposed daily management process that reflects the x% or \$y cut in costs.
4. Identify measures to monitor the existing and proposed daily management process. Show actual documentation on costs and revenues for the existing and proposed daily management process.
5. Implement the proposed process and measures. Show documentation on costs and revenues for the proposed process.

If the proposed daily management process achieves the x% or \$y cost cut, team members continue to improve the process. If the proposed daily management process does not achieve the cost cutting goal, team members continue to try with the help of higher management. If this is successful, team members continue to improve the process.

If the proposed daily management process does not achieve the x% or \$y cost cut with the help of higher management, then top management makes decisions about the reallocation of organizational resources. If this is successful, it is a temporary measure and team members continue to try to cut costs, with the assistance of top management or outside expertise, if needed.

17.7.3 Application of the Cross-Functional Management Cost-Cutting Process in Human Resources

In this section we apply the above cross-functional management cost-cutting process to the Selection subsystem of the Personnel Management process in Figure 17.1. The aim of the application is to cut costs in the Human Resources department by \$100,000. The \$100,000 cost cut is not an arbitrary numerical goal. It is based on analyses of industry practices and the cost structure of all departments in the organization. Top management has determined that the Human Resource department needs to cut costs by \$100,000 to optimize the entire organization. Other departments' cost cuts range between \$0 and \$1,500,000.

A list of the stakeholders of the Selection sub-process of the Personnel Management process includes new hires, employees, supervisors, top managers, and the employees of the Human Resources department. The director of the Human Resources department will chair this team.

An integrated flowchart of the existing Selection sub-process can be seen in the *Selection* section of Figure 17.2. The key measure used to monitor the effect of change on the Selection sub-process is the number of screening examinations (scholastic verification, crime check, and drug test) per month. Baseline data will be collected for the measure before any process change is put into practice. Data will also be collected for the measure after any process change is put into practice. The relevant costs for the existing cost-cutting process include scholastic verification costs (\$15.50 per candidate), crime check costs (\$24.50 per candidate), and drug test costs (\$84.00 per candidate). If there are n candidates who are screened in a month, then the monthly screening cost is $\$124n$.

An improvement to the existing Selection sub-process shown in Figure 17.2 is to move the “*Supervise physical and psychological examinations of selected employees*” step from its current position in the Selection process after “*Screen potential employees*” and before “*Interview potential employees*” to a position after the “*Select hire*” step and before the “*Hire employee*” step. The logic of this change is that a very low percentage of candidates fail the screening examinations; hence, screening examinations do not effectively reduce the candidate pool. Screening examinations should only be done on the finalist candidate for a given job, to minimize costs.

The relevant costs for the improved Selection sub-process are one set of screening examinations for each finalist, for each job. If a finalist passes the screening examinations, then the total screening cost for any given job is \$124.

The Human Resources department used to conduct about 83 or 84 screening examinations per month, or 1,000 per year, at a yearly cost of \$124,000. Now, the Human Resources department only conducts screening examinations on finalists. For the same period of time, there were 100 finalists. The screening costs in the new process are \$12,400, assuming all finalists pass their screening examinations. This represents a savings of \$111,600 (\$124,000-\$12,400), which surpasses the needed cost cut of \$100,000.

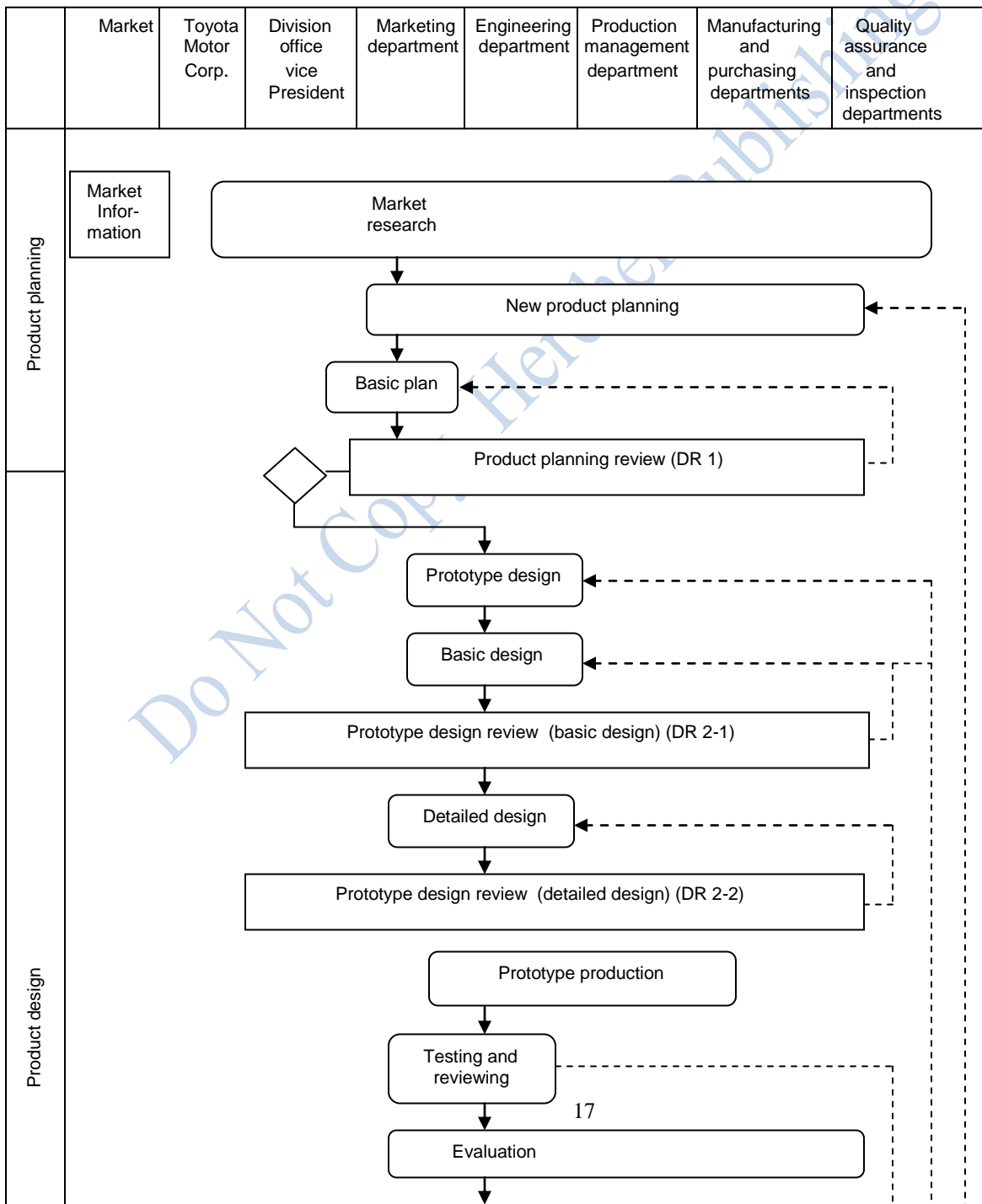
17.8 A Manufacturing Application: Toyota Forklift

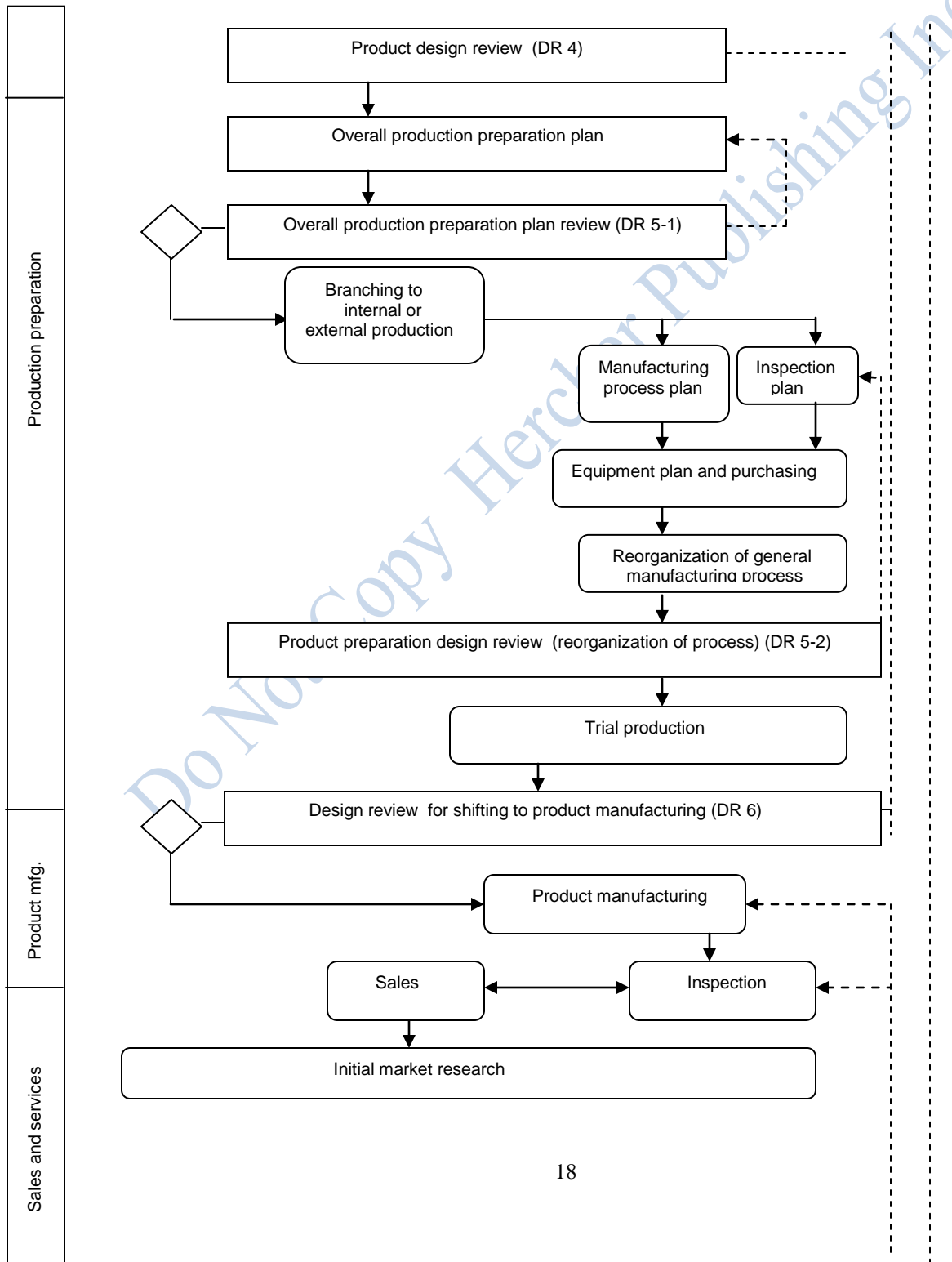
In this section, we present the Cross-Functional Management **quality assurance process** for new product development used in all six divisions of the Toyota Motor Corporation [Kuronage, 1993, pp. 85-97]. The process was developed using the five-step cross-functional management model presented

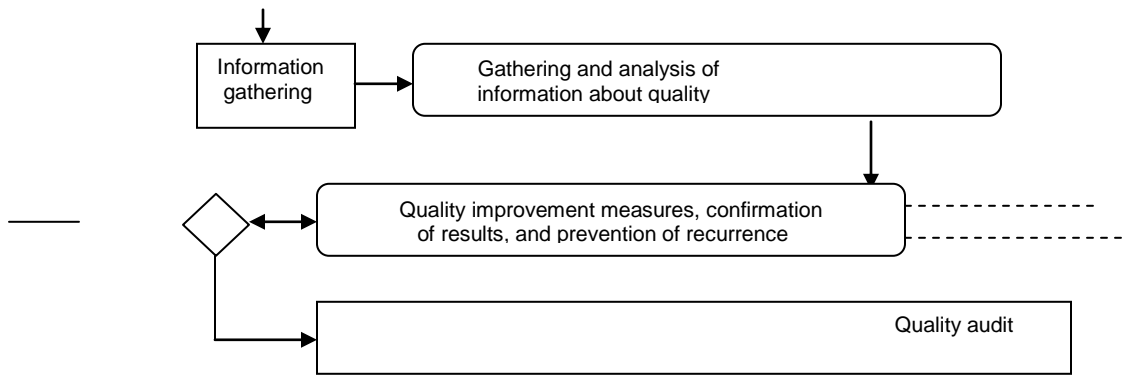
in Section 17.3 of this chapter. Additionally, this section includes an application of the model in the development of the Toyota X300 forklift.

Each division of Toyota is responsible for the development of new products. The process begins with input from the long-range business plan and annual policy statement of a division. The departments in each division responsible for new product development assume development tasks based on Toyota's cross-functional quality assurance process, as shown in Figure 17.3. These responsibilities span product planning through production preparation.

Figure 17.3
Toyota's Cross-Functional Quality Assurance Process







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Management reviews are conducted by managers to check and follow-up new product development at predetermined intervals. **Design reviews** are conducted at appropriate places in the quality assurance system to determine whether it is appropriate to advance to the next phase of new product development.

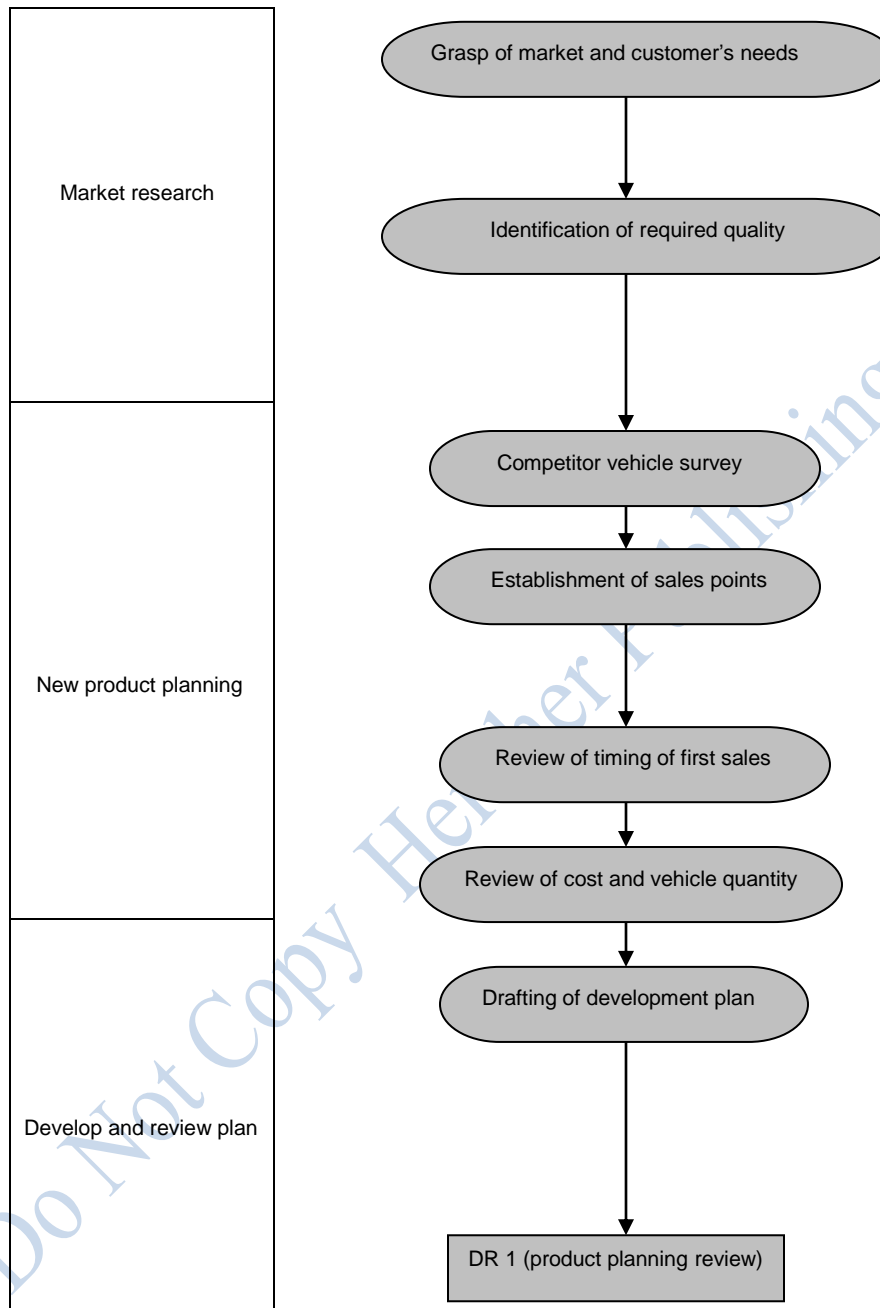
17.8.1 Quality Assurance Activity in the Development of the X300 Forklift

The Toyota design review system was used in the development of the X300 forklift at Toyota Forklift. This system integrated six design reviews into the development of the X300 forklift.

The basic idea behind the development of the X300 forklift was to provide an excellent product through farsighted prediction of market trends and customer needs, and to win customer satisfaction and trust.

Quality Improvement in Product Planning. The product planning system used to develop the Toyota Forklift X300 consists of three phases: market research, new product planning, and developing and reviewing the product plan, as shown in Figure 17.4.

Figure 17.4
Toyota's Product Planning System



Legend: DR=Design Review

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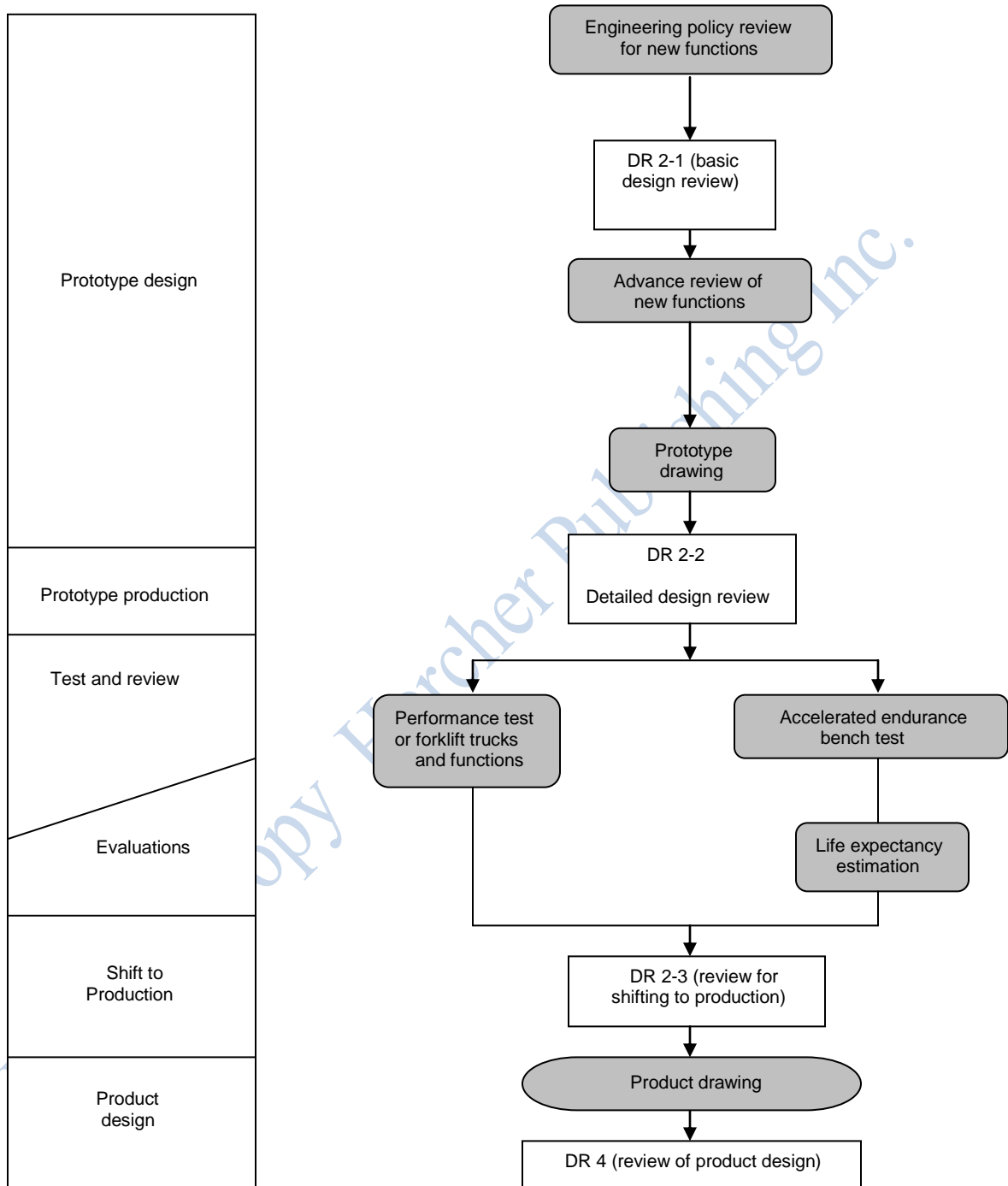
The market research phase involves getting a grasp of customer needs and wants by market segment, through surveys, and translating those needs and wants into “demanded quality characteristics.”

The new product planning phase involves studying competing products, establishing which “demanded quality characteristics” will stimulate customers to buy in each market segment, called sales points, reviewing the time to market, using Gantt charts, PERT/CPM, or other scheduling methods, reviewing the production costs of the product, and forecasting the demand for the product in each market segment.

The “develop and review” plan phase involves drafting a development plan for the X300 Forklift and conducting a product planning review.

Quality Improvement in Product Design. The product design system used to develop the X300 Forklift consists of six phases: prototype design, prototype production, test and review, evaluation, shift to production, and product design, as shown in Figure 17.5.

Figure 17.5
Toyota's Product Design System



Legend: DR=Design Review

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The prototype design phase involves conducting an “engineering policy review” for the new product functions. This includes developing a detailed list of relevant processes, parts, mechanisms, and functions with specifications, preparing a critical functions evaluation report, and performing bottleneck engineering of relevant processes.

The prototype production phase involves a detailed design review of the X300 Forklift.

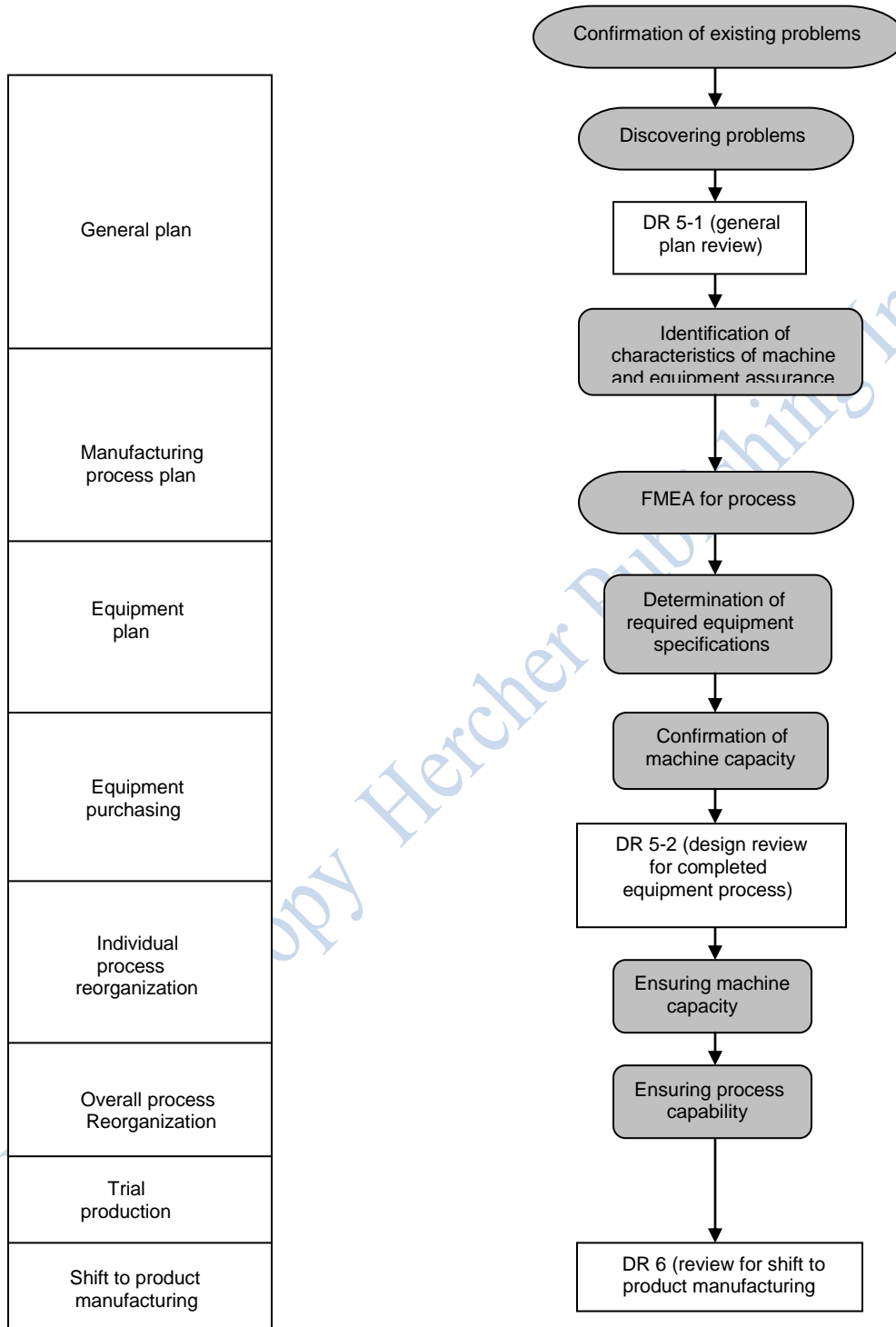
The test and review and evaluation phases involve establishing test conditions and evaluation criteria through surveys of actual usage conditions and an accelerated endurance bench test. Life expectancy is estimated on the basis of test results and survey data. The above activities increase the degree of comfort at Toyota Forklift in predicting that the design of the X300 is going according to plan and will require few modifications later in its life cycle.

The shift to the production phase involves a pass or fail review to shift to trial production.

The product design phase involves the finalization of detailed product drawings and a product design review to determine conformance of design quality to overall quality specifications.

Quality Improvement in Production Preparation. The production preparation system used to develop the X300 Forklift consists of eight phases: developing a general production plan, developing a manufacturing process plan, developing an equipment plan, purchasing equipment, reorganizing individual processes to ensure machine capability, reorganizing the entire production process to ensure system capability, trial production, and shifting to product manufacturing, as shown in Figure 17.6.

Figure 17.6
Toyota's Production Preparation System



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The general production plan involves obtaining confirmation of existing product and process problems, conducting a review to determine if those problems have been resolved, and identifying the characteristics of machines and equipment that were deployed in the product design phase.

The manufacturing process plan involves conducting failure modes and effect analysis (FMEA) on the characteristics of machines and equipment, and discovering any bottleneck problems resulting from equipment and production methods.

The equipment plan phase involves determining the specifications of the equipment required to manufacture the X300 Forklift for cost estimation purposes.

The equipment purchasing phase involves confirming the capability of machines and equipment after specifications have been priced, generating purchase orders for machinery and equipment, and conducting a design review for the completed machines and equipment processes.

The individual process reorganization phase involves ensuring the capacity of individual machines, and the overall process reorganization phase involves ensuring the capacity of the entire production process. These phases include establishing work procedures, developing operating standards, allocating human resources, developing training programs, and surveying appropriate people to predict the capabilities of machines and the entire system.

The trial production phase and the shift to manufacturing phase involve a pass or fail review of the decision to shift the X300 Forklift to manufacturing.

From the inception of quality management activity at Toyota, top management promoted cross-functional management across divisions to upgrade company-wide systems. As a result, the company successfully solved many problems, promoted standardization of systems, and achieved efficient management. The X300 is a case study in how a cross-functional process, developed using cross-functional management, was used for new product design.

17.9 A Service Application: Field of Flowers

Field of Flowers is a retailer of flowers and related items located in Davie, Florida. Its President and top management studied Deming's theory of management and structured the company according to those principles.

At the time the company was first organized, a **performance appraisal system** had to be developed. Since the leadership of Field of Flowers wanted it to be in keeping with the System of Profound Knowledge, a cross-functional team

composed of the top management of selected departments was formed. They used the five-step cross-functional management model discussed in Section 17.3.

First, the team stated a mission for the proposed performance appraisal system. It was: "To develop a performance appraisal system consistent with the System of Profound Knowledge." This mission was made it clear to all employees.

Second, team members identified all stakeholders of the performance appraisal process: candidates, new hires, employees, supervisors and top management.

Third, the team constructed an integrated flowchart of a traditional human resource system, with special attention to the performance appraisal functions, as shown in the shaded sections in column one of Figure 17.2.

Fourth, team members identified key measures of the efficiency and effectiveness of the performance appraisal system. The efficiency of the performance appraisal process is measured by the percent of performance appraisals completed on time, by supervisor and overall, by year. The effectiveness of the performance appraisal process is measured by the following key indicators:

1. Percentage of performance appraisals with written comments offering ideas for improvement of work, and
2. Analysis of responses from employees receiving a negative evaluation to the question "Did you know what to do to improve your job performance upon leaving your performance review?" by year.

Fifth, team members developed modifications to the integrated flowchart shown in Figure 17.2 based on the System of Profound Knowledge. The ideas for the modifications came from the work of Peter Scholtes [1987], in which the following functions are identified as the components of a performance appraisal system:

- provide feedback to employees on their work;
- provide a basis for salary increases and bonuses;
- identify candidates for promotion;
- provide periodic direction of an employee's work;
- provide an opportunity to give recognition, direction, and feedback regarding special projects;
- identify needs for training, education, and skill or career development;
- provide an equitable, objective, defensible system that satisfies the requirements of the Civil Rights Act and the Equal Opportunity Commission guidelines; and
- provide a channel for communication.

17.9.1 The Revised System

The *provide feedback for improvement* step in the *Performance Evaluation* section of Figure 17.2 is redefined to be providing an employee with feedback on his work. Feedback can be provided by: identifying the major processes in which the employee is involved; identifying the major work group or groups to which the employee belongs; developing a list of major feedback resources for the employee (e.g., key customers and suppliers); and developing an agenda and method for obtaining feedback from each feedback resource.

The *wage and salary determination, raises, bonuses, and other monetary issues* steps in the *Compensation Management* section and the *workers' compensation* step in the *Benefits Management* section of Figure 17.2 are redefined to be providing a basis for salary increases and bonuses based on market rate (what it would cost to replace someone on the open market); accumulation of skills (flexibility due to acquired abilities); accumulation of responsibility (depth of contribution to a greater number of processes and influence over a larger number of employees); seniority within an organization and within a job classification; and prosperity (profit-sharing of the entire organization, not one segment of the organization).

The *change in employee's position [promotion or demotion]* step in the *Transfers* section of Figure 17.2 is redefined to be identifying candidates for promotion by providing special assignments that contain elements of the promotion job; utilizing an assessment center to observe candidates exercising the skills needed in the promotion job under realistic conditions (if available); determining the needs and wants of the stakeholders of the promotion job with respect to the characteristics of the person who will assume the promotion job; and developing an organizational culture in which promotion is not the only vehicle for people to exercise leadership and influence, to get rewards and recognition, or to stretch and challenge themselves in their jobs and careers.

The *familiarize employees with objectives* and *familiarize employee with work expectations* steps of the *Orientation* section of Figure 17.2 is redefined to be providing periodic direction of employees by communicating the organization's strategic and business plans to help each employee define his work, and spending time with each employee to develop methods to promote the organization's strategic and business plans.

The *job enhancement* step of the *Development (Managerial Skills)* section and the *appraise subordinate's behavior* step of the *Performance Evaluation* section of Figure 17.2 are redefined to be providing an opportunity to give recognition, direction, and feedback to an employee regarding his work on special projects.

All of the training steps in the *Training (Vocational Skills)* section of Figure 17.2 are redefined to be identifying each employee's needs for training through the

empowerment process, that is, each employee receives the training required to turn the SDSA and PDSA cycles for process improvement.

The *forecast employment requirements* step of the *Human Resources Planning* section, the *locate qualified candidates* step of the *Recruitment* section, the *select hire* step of the *Selection* section, and the *fired* and *layoff* steps of the *Terminations* section of Figure 17.2 are redefined to be providing an equitable, objective, defensible system that satisfies the requirement of the 1964 Civil Rights Act and the Equal Opportunity Commission guidelines of 1966 and 1970. This is accomplished by committing to the values and spirit inscribed in the law, not just by conforming to the law.

The *resolve personal problems* and *improve employee performance* steps of the *Employee Relations* section of Figure 17.2 are redefined to be providing a channel for communication that otherwise would probably not occur. This can be accomplished by all employees in an organization asking and answering the following questions: "With whom is it important to maintain communication? For what purpose? With what frequency? In what kind of setting, format, or agenda?" Answers to the above questions should promote the flow of information and knowledge into channels of communication between people in organizations.

It is important to realize that all of the above processes form an interdependent system of processes. It does not make sense to adopt a new process for providing employees with a basis for salary and bonuses and not provide a process for identifying needs for training, education, and skill or career development. To do so may create a monster worse than the existing system of performance appraisal. For example, guaranteeing salary based on seniority without any process to improve the employee or organizational processes could be a formula for disaster.

Given the integrated flowchart in Figure 17.2 and redefinition of the above steps in the flowchart, the Field of Flowers cross-functional team re-conceptualized the performance appraisal process. The results are presented in the following excerpts, paraphrases, and unwritten understandings from the Field of Flowers Employees Handbook.

Excerpts are noted in regular type face. Unwritten understandings are in italics. Comments by the authors are noted in `Courier New` type.

17.9.2 Issue 1: Provide employees feedback on their work.

All associates have the following rights: ... the right to have access to all useful, pertinent information about the enterprise and about one's particular job... This includes the right to participate in the process or decision making related to one's work area.

If you have questions or concerns about anything related to your employment, talk with your Team Leader. That person will assist you in every way possible.

17.9.3 Issue 2: Provide a basis for salary increases and bonuses.

All employees begin their careers with Field of Flowers at the same hourly salary. This applies to everyone; for example, floral arrangers, delivery personnel, sales associates, and so on. The orientation period for every potential associate is based on the needs of that particular individual. Thus, the length of orientation varies from person to person. After orientation is complete, employees become level two associates and their hourly salary is automatically raised to a standard level. After two years, level two associates become tenured associates and maintain their hourly salary plus profit-sharing. Associates who have achieved tenured status will be beneficiaries of profit-sharing for any year in which profit-sharing is appropriate (according to the established corporate guidelines). Percentage of profit-sharing will be based upon earned income. Part-time and full-time associates will participate in profit-sharing. All employees know daily sales figures and are provided complete financial disclosure once each year so that they understand the distribution of profit-sharing.

17.9.4 Issue 3: Identify candidates for promotion.

Promotion. We believe in the benefits of advancing people from within the organization whenever possible. We recognize that this requires that numerous very able people be hired into entry level positions and be offered the opportunity to expand their knowledge.

Termination. The following sections of the Employee Handbook deal with termination. We have decided to place these sections under issue 3 because they deal with termination (a form of demotion).

All tenured associates have the right to employment security. In keeping with its philosophy of long-term commitment to its associates, Field of Flowers will consider layoffs of tenured associates only after all other remedies – including reduced profit expectations – have been exhausted. If work force reductions become necessary for the survival of the company, then a council of tenured associates will be formed to advise management as to the best manner in which to make those reductions. In the case of severe disciplinary action or dismissal for cause, tenured associates will have the right to demand peer review of such action. An elected Associates' Council will review such cases; they will have the authority to overturn or revise the action taken.

During the Orientation process, especially during the first 90 days of employment, Associates are expected to be attentive and interested in learning the procedures we follow. After the Trial Period ends and the Associate is raised to Associate II, they are expected to follow the guidelines and procedures that were a part of their Orientation/Training. Any Associate who deliberately and knowingly refuses to adhere to established procedures can be dismissed without following the usual measures that preclude termination without counseling and documentation.

17.9.5 Issue 4: Provide periodic direction to employee's work.

Field of Flowers' leadership provides feedback to employees by stating and constantly pursuing their mission, taking responsibility for processes, and working with employees to develop plans for the methods needed to achieve the Field of Flowers mission.

Field of Flowers has a statement of mission and values. This statement creates a culture in which leadership provides direction to employees. The statement appears below:

In management, the first concern of the company is the happiness of the people who are connected with it. If the people do not feel happy and cannot be made happy, that company does not deserve to exist.

-K. Ishikawa

The primary mission of Field of Flowers is to provide stable, safe, fulfilling employment for our family of associates. We realize that the way to accomplish this is to be recognized by the community as the company, in our chosen field of endeavor, which provides the highest quality products and services to its customers.

We believe in the importance of constancy of purpose toward never-ending improvement of the processes which produce our products and services. We further believe that the leadership of the company must take responsibility for these processes. Associates must not be held accountable for improving results if they do not have the authority or the resources to change the processes which produce those results.

We must always be alert to the harm that can result from setting arbitrary numerical goals and standards without providing the methods for achieving them.

17.9.6 Issue 5: Provide an opportunity to give recognition, direction and feedback to an employee regarding her work on special projects.

All associates are given opportunities to grow and develop in ways that are mutually beneficial to themselves and the company. Such growth and development can include special projects. It is the responsibility of management to set into motion and nurture the improvements and innovations developed by associates. This type of leadership will stimulate the intrinsic motivation of associates.

17.9.7 Issue 6: Identify an employee's needs for training, education, and skill or career development.

The Management Team (top management of Field of Flowers) accepts complete responsibility for accurately and adequately training all associates. By empowering associates with knowledge and skill, stress is reduced and their employment experience can be pleasant and rewarding.

We believe in vigorous programs for training and education so that our associates are able to grow as workers as well as in other aspects of their lives.

...training and a supportive attitude on the part of leadership, will empower front line associates to make decisions on their own.

Tuition reimbursement is available to associates with at least one year of service. Company approval is required prior to enrollment and will be determined on a case by case basis.

17.9.8 Issue 7: Provide an equitable, objective, defensible system that satisfies the requirement of the 1964 Civil Rights Act and the Equal Opportunity Commission guidelines of 1966 and 1970.

We are committed to selecting the most qualified person for each position in our company. Our success is dependent upon our maintaining high standards and emphasizing teamwork! All personnel selections are in accordance with Equal Employment Opportunity guidelines.

Each employee contributes to Field of Flowers' success; each will be treated fairly.

17.9.9 Issue 8: Provide a channel for communication.

The company culture of Field of Flowers promotes open, multi-way communication within and between all levels of employees. The performance appraisal process at Field of Flowers is a daily ongoing process of communication that constantly seeks to increase employees' ability to take pride in their work and joy in the outcome, and to optimize its interdependent system of stakeholders.

The development of the performance appraisal system was the first step (Standardize) of the SDSA cycle. The team progressed through the Do, Study, and Act stages and now continuously works on improvement of the performance appraisal system through application of the PDSA cycle.

In addition to the above eight issues, the management team at Field of Flowers works continuously to improve their human resource planning, recruitment, selection, and orientation processes. They believe that the need for the remedial aspects of performance appraisal is inversely related to the quality of the people that enter their organization. Conversely, they believe that the need for the constructive aspects of performance appraisal is always present in an organization.

17.10 Summary

Chapter 17 discussed cross-functional management, Prong 2 of the quality management model presented in this book. Cross-functional management is important because it weaves together the vertical (line) functions of management with the horizontal (interdepartmental) functions of management. Primary applications of cross-functional management include quality management, cost management, delivery management, and personnel management. Other applications are new product development, sales management, and safety management.

The members of the Executive Committee initially form cross-functional teams and select their leaders. The leader, who should be an executive in charge of a function, recommends the members for the team -- preferably no more than five people. It is not necessary for all team members to come from affected areas. All team members are trained in appropriate theory and practice.

In small organizations, one cross-functional team comprising all relevant executives can be established to coordinate and optimize all company-wide

systems. In large organizations, one cross-functional team can be set up for each company-wide system, such as quality management, safety management, or personnel management. The EC reviews, manages, and coordinates all cross-functional teams. Cross-functional management reviews are conducted at least yearly by the cross-functional team leader.

Implementing cross-functional management is difficult because of its interdisciplinary nature. To ensure the success of a cross-functional team, it is created with the expectation that it will be permanent and will deal with continuous improvement of a company-wide system over the long term. Cross-functional team members learn to think in terms of the whole system, not just their areas. Communicating the results of the cross-functional team's work is extremely important.

We examined a generic cross-functional management system for cutting costs in a standardized fashion across the different areas in an organization; a cross-functional management system for new product development used in a manufacturing company, Toyota Forklift; and how a service company, Field of Flowers, used a cross-functional team to create its performance appraisal system.

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