LeanTPS™

A SYSTEM TO PREVENT FAILURE

Quality, Leadership and the Thinking People System



David Devoe

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Constructed examples explain the reasoning and are identified in the chapters. They do not report historical Toyota or client performance. Readers must establish the requirements and authority relevant to their own work before applying a proposed change.

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Preface

I wrote this book to explain how the Toyota Production System connects the conditions of work, the method used to perform it, and the responsibility to respond when those conditions fail. Sustained improvement requires the organization to understand the work, support the people performing it, and retain what has been verified through use.

My teaching draws on 13 years at Toyota BT Raymond in Canada, three months of TPS study at Toyota Industries Corporation in Takahama, Japan, and five years as a Jishuken core member in activities hosted by Sonny Toyoda. Fifteen years of Continuous Improvement and Quality work outside Toyota also informed these questions. These experiences supply my perspective; they do not make every explanation an official Toyota statement.

The Thinking People System expresses the importance I place on developing understanding through actual work. People need clear requirements, usable methods, suitable resources, and competent help. Leaders remain accountable for those conditions. A decision to continue must rest on the condition of the work and the protection required.

Quality governance is the explanatory framing used throughout the book. The framing connects a requirement with confirmation, protection of affected work, an accountable response, and verified recovery or change. Toyota identifies Jidoka and Just In Time as the two pillars of TPS. Governance is developed here within the wider management responsibilities that support their operation.

The eight chapters develop a connected account of purpose, workplace conditions, the repeatable method, observation of loss, abnormality response, verified improvement, demand, and application. Their sequence supports understanding. Readers should return to the relevant subject as a real problem requires rather than treat the chapter order as a universal implementation timetable.

The purpose is practical. Readers should become better able to describe actual work, distinguish evidence from an assumption, recognize a condition that needs protection, and explain why a proposed change should work. The value of the reading becomes visible when that understanding improves the work and the support provided to the people doing it.

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How to use this book

Read Chapters 1 to 3 first to establish the language and operating references used throughout the book. Continue through the remaining chapters to develop the connections between observation, response, improvement, demand, and application. Each chapter also supplies context for a focused return to its subject.

Use the linked contents, PDF bookmarks, figures and tables lists, and subject index to navigate the combined book. Arabic page numbers run continuously from Chapter 1 through the back matter. Roman numerals identify the front matter. Each chapter retains its distinctive cover as a divider.

The EPUB is reflowable: readers can change type size and use their application's navigation, search, and bookmarks. Its index links to sections rather than fixed page numbers. Reading-position memory depends on the application and device or account settings.

Distinguish an archive record, a constructed teaching illustration, and an observed result from an actual trial. The chapters identify constructed examples and the limits of archive material. Recalculate the examples to check your understanding, then establish the conditions relevant to your own work.

Source-note numbers belong to their individual chapters. Note [1] in Chapter 3 and note [1] in Chapter 7 identify separate records. The consolidated register groups references by chapter. Historical module numbers in archive filenames do not change the book's chapter order.

The records and reflection questions support investigation; they do not replace approved technical requirements or competent operating decisions. Record the study boundary, observed conditions, proposed explanation, trial, and evidence used to accept or reject a change. Follow one real concern through protection, investigation, decision, and confirmation, then use the relevant chapter again when the evidence changes your understanding.

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CHAPTER 1

Governing Execution: TPS Within Toyota's Wider Management System

1.0 The Governing Logic of TPS

The Toyota Production System operates within Toyota's wider management system. TPS connects customer demand, coordinated production, built-in Quality, and the development of people through Jidoka and Just In Time. Management establishes purpose, provides resources, develops capability, and remains accountable for the conditions of execution. Quality governance explains how the organization makes its Quality requirements effective within that wider responsibility.[4]

Quality governance establishes requirements, assigns decision authority, confirms operating conditions, and requires a response when those conditions fail. Leadership must ensure that the person recognizing a concern can protect affected work and obtain competent help. Management then remains accountable for the decision to continue, the correction of the cause, and the retention of verified learning. These obligations connect the Quality commitment with what happens during production.

Quality must be built into execution and confirmed through the appropriate technical controls and inspection. Defined methods, material controls, and acceptance criteria help people recognize a departure while useful action is still possible. When stop criteria are met, affected work must stop or suspect output must be prevented from moving forward. The response follows the risk and the operating standard; it does not automatically mean stopping an entire production system. These protections support dependable production and customer trust while providing evidence for improvement.

Jidoka and Just In Time connect protection with coordination. Jidoka enables people and equipment to recognize abnormal conditions and take the response needed to prevent defective work from continuing downstream. Just In Time coordinates production and replenishment with

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what is needed, when it is needed, and in the amount needed. Their application requires suitable methods, capacity, equipment, material arrangements, and human judgment. Standardized Work provides an important reference for observation and improvement, while Andon, Kanban, and other signals support decisions when their meanings and responsibilities are clear.

Kaizen and Jishuken connect operating performance with the development of understanding. Kaizen tests changes in actual work and carries verified improvements into the applicable methods and standards. Jishuken brings participants, including leaders, into structured study of processes and their interactions. A study should improve the work and develop the ability to explain why the change helped. Learning is demonstrated through better decisions and sustained application, alongside the performance results that the study was intended to achieve.

Respect for People gives this operating discipline a human purpose. People need workable expectations, a safe way to expose concerns, and support from those with authority to address the causes. They also need opportunities to contribute ideas, question an unsuitable method, and develop their abilities. Standards and technical controls cannot supply that judgment on their own. The people doing the work help create, use, test, and improve the system, while leadership remains accountable for the conditions and support it provides.

Governance makes the responsibilities of management effective at the point of work. A defined condition establishes the reference; observation or detection exposes a departure; a signal reaches the responsible person; and the response protects affected work. Authorized continuation depends on confirmed conditions. Investigation and verification then determine what must change in the method or its support. This sequence connects TPS practices with management accountability without adding another pillar to TPS.

The comparison with Lean practice after 1988 concerns how methods are taught and sustained. Lean practice is diverse, and many practitioners preserve the system relationships examined here. The concern arises when a tool or improvement event becomes detached from customer purpose, workable conditions, participation, and dependable follow-through. Methods can produce useful local gains, but their continuing value must be demonstrated through the connected work. The argument concerns that relationship, rather than the merit of a label.

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