

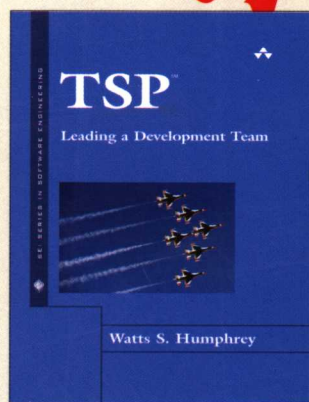
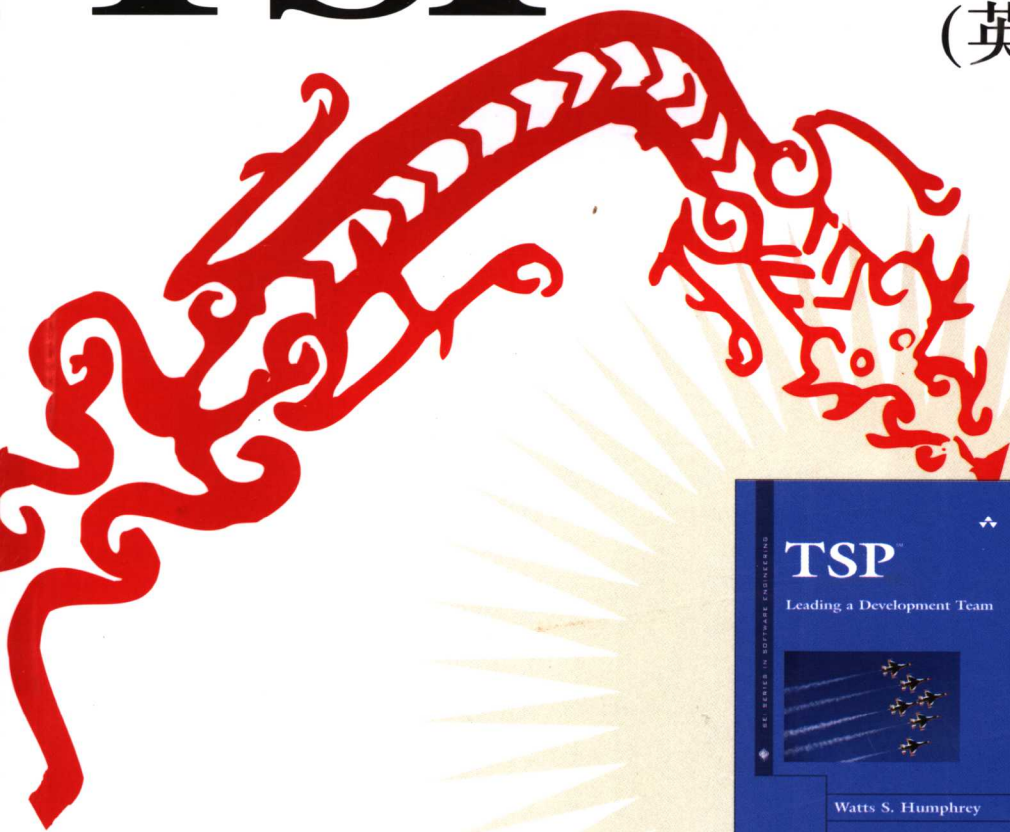


TSPSM

— Leading a Development Team

[美] Watts S. Humphrey 著

TSP — 领导开发团队 (英文版)



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◆ 著 [美] Watts S. Humphrey

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内容提要

本书分为 5 个部分，全面讲述了开发团队和开发团队领导能力的主要因素。第一部分介绍了管理层和团队对团队领导者的期望，描述了团队成功的必要条件，以及需要完成开发工作的团队类型。第二部分概述了团队软件过程以及它能如何帮助你构建你所需要的团队，还描述了如何组建团队以及 TSP 启动过程。第三部分讨论了团队的配合，重点在于遵循计划、维持关注点、遵循过程生产出高质量的产品。第四部分讨论了管理层报表、项目评审和用以支持和保护团队的职责。第五部分描述了如何培养你的团队和组员，如何更好地利用你和你的团队的能力。附录提供了更为详细的 TSP 团队角色及其应用方法的资料。

本书实用性较强，书中讨论的可能会出现的问题以及问题的处理准则和建议，无论对经验丰富的项目负责人还是新手都具有极高的参考价值。本书适用于软件开发项目经理及希望成为项目负责人的开发人员，也可作为高等学校软件工程课程的参考教材使用。

*I dedicate this book to all the teams
I have worked with over the years.*

*You have taught me that teams are the most powerful tool
mankind has yet devised for doing creative work.*

*Working with you has been the most
enjoyable experience of my life.*

前言

我从事开发工作已经有 50 多年了，曾经参加、领导、管理、指挥、评估或训练过百余个创造性的开发团队。在这种经历中，我得到了许许多多的经验教训，其中，最为清晰的一条信息是领导才能在这个过程中影响甚大。无一例外，真正创造性的工作都是由经验丰富的领导者借助团队的力量来完成的。但最有趣的却是，这些伟大的领导者通常都是像你我一样的普通开发人员，然而，一旦到了领导者的位置上，他们就能做出杰出的工作。

事物的另外一面同样有趣。在开发项目失败的时候，领导者的无能几乎总是要负很大一部分责任。在这本书里，我讲述了无能的领导者与杰出的领导者之间的差异所在。目的在于帮助读者在失误给你和你的团队带来困难之前，理解、预见和修正最常见的领导失误。我创作本书是因为我曾见到过太多聪明而勤奋的开发人员犯下过低级的领导失误。这使他们蒙羞，因为那些失误完全是不应该出现的。领导能力并不是很复杂的问题，每一个人都能成为伟大的领导者。

当我第一次当上领导者的时候，我才刚刚加入一个开发小组没多久，这是我的第一份工作，我并不了解其中任何一名组员，对他们的所作所为也几乎毫无概念。我甚至不理解组织机构和相关技术。但最后事情却进展顺利，那更多地是因为组员的非凡能力，而非我拥有特殊的洞察力和技能。

但是，我觉得这也没有什么特别之处。甚至当你担任新的职务时，组员对工作的了解比你要多，而且他们还乐于助人，这种可能性并不大。但偶尔也会有例外情况，人们乐意尊敬你，希望你获得成功。只要你愿意承认自己的失误，自嘲所犯下的错误，他们还是可以容忍你的愚蠢问题和幼稚过失的。诚实一些，知之为知之，不知为不知，想想管理层让你当上领导也是自有他们的道理的。

在我工作了一些年后，我被要求领导另一部门中更大的一个组。我非常了解这些组员，也知道大量的工作内容。但是这一次，我接管这个小组的过程却也并不顺利。这个组里面有一位更有经验、更年长的组员，他和其他一些组员认为他应该比较好的领导人选。理清这种状况花得时间要长一些，但最后我们还是达成一致，让我担任新的职务，这样我们就建起了一种良好而高效的工作关系。

团队的工作在很大程度上依赖于他们和领导的关系。但是，我还发现你和你的团队之间的关系依赖于许多因素，其中大部分你可以施加影响，但另一些你却无法对其产生影响。我在本书中描述了这些因素，并对处理它们的方式提出了建议。这些准则帮助过我，同样，我也希望它们能够帮助你。

本书的读者对象

本书写给现在已是领导者或者今后有可能成为领导者的那些人。它讲述了项目负责人的职责范围，领导能力的基本要素以及你可能会面对的许多问题。我不会假装知道所有的答案，但我确实有许多领导团队的经验，我也曾与许多团队和团队负责人一起共事过。因为每一个团队都是不同的，大多数团队都会随着时间壮大、演变，变成高效的领导者并没有什么万能良方。但是，原则和指导方针却

还是有的。

无论你是经验丰富的项目负责人还是新手，本书讨论了可能会出现在你面前的许多问题，以及问题的处理准则和建议。本书也总结了我的观察结果和经验，它们可以帮助你应对任意类型的团队，处理各种领导任务。

本书讨论的团队类型

团队有许多种，本书关心的是开发团队。有许多资料讲述过体育运动、军事和生产团队，但鲜见开发团队资料，提到如何领导这种团队资料就更少见了。因为我所工作过的许多团队都有领导问题，我就感觉创作这本书是有意义的。我想讲讲领导任意开发团队的经验，但最近我的大部分工作集中在开发软件密集型系统的团队上。因此，我给出的例子和大部分讨论关注的都是这类团队。

当我在卡内基·梅隆大学的软件工程研究所（SEI）工作的时候，我们开发出了团队软件过程（TSP）。如其名称所示，这个过程被设计用以指导软件开发团队。使用过 TSP 的有许多硬件、软件、系统、需求和测试团队，以及许多专家。它还被一些没有或有很少软件开发任务的团队所采纳。因此，本书在很多地方都提到了 TSP，你会发现其概念和指导方针同样也适用于其他类型的开发团队。但是，很少有东西是既免费又有价值，如果要使用 TSP，你们还要掌握一些新的技能。这些技能在个体软件过程（PSP）的培训中也有教授。

本书的内容结构

本书分为五个部分，讲述了团队和构成团队领导能力的主要因素。第一部分讲到了管理层和团队对领导者的期望。然后描述了团队成功的必要条件，以及需要完成开发工作的团队类型。紧跟着第一部分对做什么和为什么要这么做的讨论，第二到第五部分和附录讲述了如何做——要如何做才能成为一名伟大的领导者。

第二部分一开始就概述了团队软件过程，以及它能如何帮助你构建你所需要的团队，即便你的团队不做软件开发工作或任何其他类型的开发工作。然后，第二部分描述了如何组建团队以及 TSP 启动过程。第三部分讨论了团队的配合。它讲述的重点是遵循计划、维持关注点、遵循过程生产出高质量的产品。第四部分讨论了管理层报表、项目评审和用以支持和保护团队的职责。第五部分是本书的结束部分，它描述了如何培养你的团队和组员，如何更好地利用你和你的团队的能力。附录提供了更为详细的 TSP 团队角色及其应用方法的资料。其中还讨论了单位内部的沟通和控制网络，以及要如何利用它们来完成你的目标。

致谢

本书来源于我在开发团队中得到的经验。团队多种多样，团队和领导能力的知识永远也学不完，这点一直让我惊诧不已。在我与开发团队的多年工作当中，我从每一个人的身上都学到了不少东西。这个原因也促使我要把本书献给我曾经领导过、培训过或观察过的许多团队。我感谢他们当中的每一个人，感谢他们的忠诚贡献，感谢他们对我的宽容和幽默感。但在这里，我并不能一一答谢，如果你曾经领导过我所在的团队，或者曾是我的组员的话，我在这里谢谢你。

在本书的创作过程中，我曾经得到过 SEI 的一个特别小组的支持：TSP 开发团队。这些组员都曾经以各种各样的方式对我的工作做出过贡献。我要感谢 Dan Burton、Anita Carleton、Noopur Davis、Caroline Gaettinger、Jim Mchale、Julia Mullaney、Jim Over、Marsha Pomeroy-Huff、Mark Sebern、Dan Wall 和 Alan Willett 等人的帮助和支持。我还要感谢 Bob Cannon、Carol Grojean 和 Don McAndrews，感谢他们对本书的评价和建议。

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PART I

Introduction

On May 21, 1968, the 3,500-ton nuclear attack submarine *Scorpion* reported its position as it returned from duty in the North Atlantic (Sontag 1999). That report was the last that was heard from the ship and its 99-man crew. On May 27th, when the *Scorpion* did not arrive at Norfolk when scheduled, they knew it was lost. All anyone knew about the *Scorpion* was the time and place of the last report and that it was going to Norfolk. The wreck could be anywhere in 500 square miles of deep ocean. Finding such a wreck on land would be tough enough, but 5 miles deep in the ocean, it was an incredible challenge.

John Craven got the job of finding the wreckage. John had been on the search for the *Thresher* five years earlier, and he had led the successful search for a hydrogen bomb lost in the Atlantic off Spain. He lined up oceanography and submarine design experts. He contacted submarine captains and torpedo specialists. He consulted with modeling experts, nuclear engineers, and anyone else who might know something useful. He talked to the U.S. Navy hydrographic office to see if any explosion had been detected in the *Scorpion*'s vicinity at the time of its last report, and he checked on prior problems with equipment like that used on the *Scorpion*. He next had a model built of how a submarine would sink. However, to run the model, he had to know when the *Scorpion* sank; its depth, heading, and speed; and the rate of descent. To determine this, he had to deduce what caused the sub to sink.

With this preparation, John worked with his informal team of experts to get some answers. Among other things, they concluded that the problem started with a battery explosion that caused a so-called “hot” torpedo. With a hot torpedo, the skippers said, they would immediately pull a 180 degree turn to deactivate the torpedo warhead. So the sub would have been headed east and not west when it sank. They also judged the speed, cruising depth, and timing of the fire and explosion that sank the *Scorpion*. When they ran the model and sent a deep-diving submersible to the spot 5 miles down in the Atlantic, the wreckage was 220 yards away.

Teams often produce amazing results like this. Well-formed and properly skilled and motivated groups of people produce much better results than any individual possibly could (Surowiecki 2004). The challenge for team leaders is to produce the conditions and provide the leadership and motivation to make such results possible. This book shows you how to meet this challenge.

The four chapters in Part I provide the foundation for everything that follows. Starting with a description of your job as team leader, these chapters cover leadership, the nature of teams, and motivation. They describe *what* to do to form and maintain a creative and effective team. The rest of the book addresses *how* to do it.

Chapter 1, The Team Leader, describes your job as team leader, what management expects from you, and what the team expects. It also summarizes your principal duties.

Chapter 2, Leadership, describes leadership, what differentiates leaders from managers, and the responsibilities of leadership.

Chapter 3, Teams, discusses the kind of team needed for development work. It introduces the self-directed team, describes why such teams are creative, and reviews your role in forming, launching, and leading such a team.

Chapter 4, Team Motivation, addresses the need for and principles of building and maintaining self-directed teams. It also describes how communication, commitment, and feedback affect team motivation.

References

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The Team Leader

As team leader, you are responsible for a project and your job is to use your team to get the job done. While you are the leader for all of the people on the team, you may not be their manager. Leaders must often lead groups that do not report to them. For good leaders, this is rarely a problem: people like to be led; they don't like being managed. This chapter describes what management and the team expect of you, the things team leaders must do, the way team leaders must behave, and the team leader's primary job.

1.1 What Management Expects

As team leader, you are part of management. While this does not necessarily mean that you will have an office and an assistant or that you will control salaries or promotions, it does set you apart from the team members. The essential difference is that you are now expected to get work done by delegating to other people rather than doing it all yourself. Most new managers have trouble accepting the fact that their job is to lead the people who do the work, not to do the work themselves.

While most team leaders who have been developers see nothing wrong with actually doing much of the work themselves, this is rarely a good idea and it can even damage your ability to be an effective leader. Even if you are the most skilled designer on the team, your job is to lead the team, not to be the lead designer. While you may have to provide detailed guidance on the design work, the best leaders show their team members how to do their jobs but do not step in and do the work themselves.

On a small team, you may decide to take on some of the team's roles and tasks yourself. But that must never be your primary concern and it must not distract you from the principal job of leading, guiding, supporting, and protecting the team. As far as management is concerned, your job is to use all of the team's resources to do this job. Everything else is secondary.

Some other things management expects of you are as follows.

- ☐ You will get this job done on the schedule and with the resources you have been given.
- ☐ The products you produce will meet both the stated and the implied requirements.
- ☐ You will keep management posted on your team's progress.
- ☐ You will inform management of any problems or issues in time for them to take corrective action.
- ☐ You will work cooperatively with all of the other parts of the organization.
- ☐ You will abide by all of the organization's rules, regulations, and standards.

1.2 What the Team Expects

While management's expectations are not very surprising, what your team members expect is much less well defined and often contradictory. Initially, the team members will have a collection of individual expectations. While these expectations could vary widely, there are a few common ones that team members almost always have of their leaders.

First, like everyone else, creative people share a basic need for job security. They want to keep their jobs and are understandably concerned about management's views of their performance. However, professionals' views of what makes a job interesting and rewarding often differ somewhat from management's priorities.

Second, what often is surprising to management is that the top priority for most development professionals is not about the product or the schedule. It is to work on a cohesive and cooperative team. In fact, even when the result is a total