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AGILE

KNOWLEDGE THAT SETS YOU APART

Agile Project Management Guide for the PMI-ACP Exam
with Adoption of ICAgiles Learning Roadmap

BY KLAUS NIELSEN

(MBA, CSM, PMI-ACP, PMI-RMP, PMP)

Foreword by Jennifer Stone (ICAgile) and Larry Cooper (BSSNexus)

Afterword by Michele Sliger,
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Nyt Teknisk Forlag

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Foreword

No single Agile methodology fits every organization. In reading **I Am Agile**, I was delighted to see that this book promotes an understanding of Agile principles, ensuring a sound basis for approaching all popular Agile practices.

I Am Agile also demonstrates the growing worldwide adoption of ICAgile's learning roadmaps by institutions of higher education. I am pleased that Klaus Nielsen has chosen to include our Fundamentals of Agile certification in his university-level course offerings. This book is a welcome addition to the growing body of knowledge around ICAgile's Agile education roadmap.

Whether you are a courseware designer looking for materials to support your classes or a student who wants supplemental materials to provide a solid background in current Agile principles, methods, and practices, Klaus Nielsen's **I am Agile** provides a solid start.

Jennifer Stone
Managing Director, ICAgile
www.ICAgile.com

Additional Foreword

As a PMI Agile Certified Practitioner (PMI-ACP^{SM}), Certified ICAgile Professional (ICP), and Director of Courseware Development, I will be recommending **I Am Agile** as part of the core reading materials for our *Fundamentals of Agile: PMI-ACP^{SM} Exam Prep* course offering. This book not only provides a good supplement to our ICAgile accredited course materials, but also provides our students with a handy reference as they need to apply any of the described Agile principles, methods, and practices as they prepare to take the PMI-ACP^{SM} Exam. I just wish we had it when we developed our course!

Larry Cooper
PMI-ACP, ICP, CSM, CSP, Prince2P, PMP
Director of Courseware Development and Senior Partner
BSSNexus Global Inc.

Acknowledgement

First of all I need to acknowledge all the Agile thought leaders, authors, researchers, and practitioners in PMI and ICAgile who have provided me the material to create this book. Many of my students at the IT University of Copenhagen, participants on certifications courses, colleagues at universities or fellow consultants, and private and corporate clients have along the way provided me with support, guidance and knowledge to write this book. Many reviewers and contributors deserve thanks. Part of this process has been interviewing many Agile practitioners like Martin, Igor and Burt as well as leaders from fast growing Danish companies such as d60. I am also indebted to international business case guru and excellent networker Johannes Ritter from Solution Matrix, agile authority Michelle Sliger and Gloria Miller and the amazing Jen from ICAgile who all have made a remarkable contribution to this book.

This work is all about standing on the shoulders of Agile giants to collect mind blowing *knowledge that sets you apart* with a theoretical Agile mindset and an applied best practice. If one can talk about modern day unaware 'sponsoring,' the world class digital library from ACM has provided much high quality peer reviewed content. Also thanks to *Edit911* for making this book readable.

As this is my first book, I never had a publishing company before and now never need another. The experience and fun loving interest, friendship and support from *Nyt Teknisk Forlag* has been a joy and delight. I hope my publication does justice to your support and work.

Of course I thank my friends, families and former wife for their tolerance and loving-kindness during my work.

Many years ago I completed by BA in Chinese. Part of learning Chinese was the fascinating world of Chinese history. Back in the times of Confucius, a hero of mine had to memorize the Chinese classics in order to work as civil servant. One of the Chinese Classic, the *I Ching* or *Book of Changes* sums up well the time and process of writing a book in a section about darkening the light:

"Prince Chi lived at the court of the evil tyrant Chou Hsin, who, although not mentioned by name, furnished the historical example on which this whole situation is based. Prince Chi was a relative of the tyrant and could not withdraw from the court; therefore he concealed his true sentiments and feigned insanity. Although he was held a slave, he did not allow external misery to deflect him from his convictions."

About the author

MBA and Certified Scrum Master Klaus Nielsen holds PMP, PMI-RMP and PMI-ACP credentials from the Project Management Institute and is the founding partner of Global Business Development in Denmark and associated lecturer in Project and Program Management at the IT University of Copenhagen. Klaus has over 10 years of project and program management experience in managing and delivering complex, high-visibility Information Systems projects and programs. He can be reached at kni@itu.dk

Content

Detailed Contents

How to use this book

The purpose of this section is to give you an overall view on how to use this book based upon the various components of each chapter. The overall structure of the book is structured around the PMI Agile certification content outline with headlines matching the Agile tools and techniques. Initially each section contains a figure based upon William Edwards Deming's PDCA cycle – an easy to use four step management method. PDCA is short for 'Plan', 'Do', 'Check' and 'Act'. The project planning and structure is located in the planning sections of the first part of the book. All chapters in the 'Plan' sections have matching colors in order to make it easy to navigate using the book. The initial figure also pinpoints your location in the book and area of knowledge. The 'Do' section focuses on the active and acting aspects of Agile, including most soft skills and leadership. Always use the figure and colors for navigation. The 'Check' section is a mixed section, again with it own color scheme to help navigation and foster learning. The structure is the same for 'Act.'

Each chapter starts out with a short introduction to set the scene and identify relevant key points. Key terms and concepts are introduced so you know early on what to expect from the chapter. When reading through the sections you may notice some illustrated words are in the left section of the page. This signifies is an important key term for Agile certifications and the terms should be memorized. These words are also found in the index in the back of the book. Each chapter is divided into sections and after each section you will find exercises. They arise from debates and questions about key issues and you can use them as part of class training with other participants.

Almost every section contains case studies located near the relevant content. Most case studies include one or more questions that can be used in classroom training for discussion and individual reflection. The case studies come in three types:

1) Cases studies that arise from interviews of thought leaders. These are all new and have never been published before. The content of these case studies are sometimes covering several aspects of Agile.

2) Academic case studies from peer review publications. These cover findings which are relevant to the readings. They stem from new knowledge, unexpected discoveries and data that highlights certain aspects of the readings.

3) Industry case studies based upon interviews with leading companies. They demonstrate to a high degree how practitioners might use the tools and techniques in real life. This practice may vary to some degree from that reflected in the readings.

In almost every chapter of this book a section contains industry trends. Industry trends are facts and figures on the application and state of Agile. What methods, tools and techniques are being used by which industries? When, where and why is industry using them? Data comprises collections of adoption rates, surveys and interviews from leading market sources such as:

- State of Agile by Version One 2007 – 2012 (4048 participants in 2012)
- Scott Ambler 2006 – 2012 (4232 participants in 2006)
- Association for Computing Machinery, The Digital Library
- Forrester (1298 participants in 2009), Herring, Gartner, Shine (131 participants in 2006) Technologies and similar world leading firms.

At the end of each chapter you will find a section called "Check your knowledge" which contains questions and answers in the PMI-ACP certification format used for participants training for the PMI-ACP certification. They cover the necessary knowledge pertaining to the chapter you have just read. The questions are closely related to the text and requires a thorough reading of the chapter. Answering these questions correctly means you are well underway and have a good knowledge of the chapter.

Finally each section contains a list of further reading that combines the references used in the chapter and additional readings for those who want to know more or need literature for an assignment.

If you have any questions or remarks about the book and readings, please read the next section "How to use the Online Resource Centre." It provides guidance and support for lecturing, reading or applying the content of the book.

How to use the Online Resource Centre

The online Resource Center is an online library and tool for communication. The online Resource Center can be used by participants and trainers and lecturers, as it contains;

- Background information.
- Microsoft Power Point slides for training.
- Links to additional material.
- A wide range of free resources for all to use.

As we are in the process of moving sites and updating content as part of this book. If you want access the Online Resource Center, have any questions, seek guidance or need support regarding the book, please write us. In addition we would very much like to know what you think of the book and the online resources as we constantly work to improve future editions of the book and online resources. Feel free to email us at kn@gbd.dk or kni@itu.dk at any time. If you want access to the Online Resource Centre, we will forward a link and login information.

Agile Certifications

This section highlights three significant issues concerning Agile certification: the importance of the Agile certification; its benefits and guidance for those who should consider it.

The importance of the Agile certification

Agile is a topic of growing importance in project management. PMI market research and Version One (2012) shows that project management practitioners are embracing Agile principles and practices as techniques for successfully managing projects.

The following observations demonstrate the increasing demand for an Agile certification;

- More and more individuals are embracing Agile principles and practices and are creating a demand for certification, recognition and learning opportunities.
- In many countries, such as Denmark, an improved set of open public legal contracts (K03) to a higher extent now support Agile project management.
- Many project professionals experienced in traditional techniques are seeing the demand for Agile principles and practices in industries and organizations. These practitioners are eager to add Agile principles and practices to their project management "toolbox."
- There is an increased awareness of Agile project management and pressure in the public sectors to obtain benefits that Agile offers to reduce costs and increase project success.
- Private organizations using project management to serve both internal and external clients are seeing value in Agile principles and practices to deliver projects quicker, with less waste and lower cost due by reducing misunderstandings or poorly defined requirements.
- A knowledge gap is being bridged between private suppliers and public vendors to reduce the amount of failed projects due to mandatory public tenders.
- Learners feel "safe" with the concept of Agile, understanding that Agile is a mindset and general approach, not just a set of techniques. Being on an Agile project offers a sense of high collaboration and development that increases value.
- Focus improves on delivering projects faster, cheaper and better when are supported by many of the well-known Agile features.
- The learner gains both vocabulary and principles to discuss issues with other Agile practitioners. This includes a knowledge of the

basic hazards, costs and benefits that come with using an Agile approach.

- A demand for better project management fosters the need for learning and skills that combine best practices from plans based on Agile principles.
- Certification provides the learner with at least one Agile approach – whether XP, Scrum, DSDM, Crystal, Lean, Kanban or an organization-local approach – to build upon.
- Academics are increasingly focusing on to Agile knowledge. In the past it has been an area dominated by practitioners.
- Organizations have helped grow the knowledge and skill of Agile practitioners over the last several years. More and more organizations like PMI now have a full suite of resources available to develop and recognize Agile knowledge and skills.
- Students are demanding to learn the newest, coolest and best tools and techniques that project management has to offer.
- Other sectors are turning to Agile project management. For years, Agile was limited to the software development discipline.
- There has been an increased call for Agile certifications in general especially not tied to a single methodology or vendor. For years, only Scrum provided the certifications.
- A greater array of high-quality learning programs for those interested in Agile principles and practices have had a positive effect on the amount of training demanded.
- The Agile community around the globe has increased.

The Values of an Agile Certification

In order to examine the value of Agile certifications it is imperative to examine some of the questions many justifiably ask. Before taking on an Agile certifications one should inspect which organization, company or group that has created the certification. This enables us to know quality the certification might hold based upon the development, material and the use of the Agile certifications. The value of a certification tends to increase with the amount of people being certified and demand from industry. This book is closely aligned with certification from PMI and ICAgile, which are two different organizations. PMI is "an entity that is well known

and trusted by organizations and their hiring managers for their credential standards". PMI is a global organization and well known in more than 200 countries. There are more than 600,000 individual members globally. This creates a solid foundation for a highly valued certification. In contrast ICAgile is a small organization relatively unknown outside the Agile community. The ICAgile organization has its strength in that it has some of the most well respected and impartial practitioners in their ranks. ICAgile does not sell certifications. It is expert at providing vendors knowledge in Agile that can be used to create courses. The ICAgile organization may not be known globally but the key people of the organization are thought leaders within Agile who are well known and highly respected around the globe.

Other companies develop kinds of certifications in the form of products. In most cases, look for international standards and similar recognitions when judging value. Of course, if the company is a recognized world leader companies like Microsoft and SAP, the product speaks for itself.

The second and third questions you should ask is "What is in it?" and "What is in it for me?" A certification is a diploma showing competencies within an area, so it is highly important that the content is of some value. This means that the content of the certification ought to cover best practice from an industry and academic viewpoint. The wider the content the better. For example, **ACP** the PMI-ACP certification is created by Agile experts for Agile practitioners, and it is not tied to a single Agile methodology. As a result, the PMI-ACP certification is well positioned to become the new standard for Agile professionals. The content of the PMI-ACP and ICAgile certifications are covered later in this section but both are based upon these requirements. When content is best practice, it can provide the certification with an increased value if thought leaders have been part of the development. This is a mark of quality and may create a wide recognition in the industry.

Completing a certification is, in most cases, demanding so in order to get properly motivated we need to know why we are doing this or, stated more bluntly, what is in it for us. Some may do it for:

- Money – More and more organizations providing certification can demonstrate the value of certification by an increase in salary.
- Market demand – Job ads and contracts require a certain skill set which must be documented.
- Applications – Learning new tools and gain the ability to apply them.
- Recognition – A certification is a recognition among peers.
- Relative value – The effort to pass the certification or costs associated is worth the gains from passing.
- Requirements – Trainers and other developers are expected to have obtain certifications.
- Knowledge transfer – It demonstrate the ability to transfer knowledge across industries.
- Abilities – If reflects the ability to understand and apply Agile principles and practices to basic projects.
- Professionalism – It demonstrate level of professionalism in Agile practices of project management.
- Versatility – It increases professional versatility in project management tools and techniques.
- Development – Certifications demonstrate ongoing development within one's field of expertise.
- Global knowledge – Certifications are often internationally well-known and can be used in many countries, which makes working across borders more easier.

The target groups for an Agile certification

The target group for Agile certifications are changing. The common and well known target groups have been IT professionals with emphasis on software development. The target group would most likely have titles such as:

- Program Managers.
- Product Owners.
- Project Managers.
- Scrum Masters.

- Project team Members.
- Customer, General and Senior Management.
- Partners, Vendors and Contractors.
- College and University Instructors.
- Professional trainers.

Currently we see a much broader applications of the Agile certifications to other industries and job titles due to the many possible applications of the Agile toolbox. There is still a focus on software development and project management, but now we also find engineering, marketing, product development and other segments of industry.

PMI Agile Certified Professional Certification (PMI-ACP)

The theory of project management and international standards are to some degree based around certifications from the International Project Management Association (IPMA), the Prince2 certifications managed by APMG-international, a leading examination institute. It also includes the certifications from the Project Management Institute (PMI). In terms of Agile project management, the IPMA certifications are based upon a competence framework to some extent similar to ICAgile. However, it is based upon plan-based project management rather than Agile, which makes it less useful in this situation. APMG-international offers the DSDM Atern foundation certificate along with their own Agile project management certification.

The remaining certifications within this field are the Scrum certifications offered by the Scrum alliance. These are highly useful for Scrum practitioners. The certifications of Scrum Master (CSM) and the Product Owner (CPO) has been popular among many Agile practitioners. This book is structured around certifications from PMI, the PMI-ACP or Agile certified practitioner certification and the