Lean Innovation
Preface

In 15th-century Spain, the Port of Cádiz was a hub of ship builders, sailmakers, sailors, merchants, captains and rich noblemen. All these men had one thing in common – they shared the dream of unknown territory where great riches awaited. And fueled by this dream, they embarked on great adventures. They did not always chart the right course, were hit by storms and suffered disasters along the way. They learned new things and had to improvise with whatever they had at hand. And yet, because the captain and his crew believed in their dream and because they worked together to achieve a common goal, the seafarers ultimately did return to Spain with great riches.

Lean innovation is about discovering new territory and about efficient realization of a dream. We enjoy working in environments where focused action transforms dreams into results. Strategy and innovation have been our professional passion for more than ten years. And during that time, we have designed development organizations and innovation processes, produced product strategies and developed products. We have coached leaders, project managers and specialists in innovation work, and we have participated in development projects as sparring partners and coaches. All of this has taught us that innovation has the strongest impact on the bottom line, and creates the highest employee satisfaction when the company does a good job in a few key areas:

- Innovation work should be based on a good understanding of the customer’s situation and needs.
- Participants and departments need to show respect, openness and responsibility.
- Management should ignite an innovation dream that is strong enough to overcome the challenges that arise during the process.
- Management should have an active and visible management style that helps the innovation projects achieve their goals.
- Progress, results and structure should be kept in focus so that good ideas and good intentions are not lost along the way.

In our experience, the companies that manage to be both ‘soft’ and ‘hard’ at the same time achieve the best innovation results.
We want to show you how leaders can work with these two aspects and reduce the distance between themselves and their knowledge workers while keeping their eye on the target.

This book is based on the premise that it is possible to improve knowledge and development work. No matter how good you are, you can always be better. Lean innovation is about creating an innovation system that continuously improves itself, so it becomes the company’s primary competitive weapon.

Our work as management consultants has given us the opportunity to observe innovation processes in many different sectors, companies and functions. We want to express our thanks to the companies that have asked our advice on tackling innovation challenges. Our experiences from working with them form the foundation for this book.

We would especially like to thank the companies that have contributed directly to this book: ECCO, LINAK, Ramboll Oil & Gas, Exhausto and Coloplast have helped bring this book alive. Thanks to Aage Andersen, Johannes M. Knudsen and Jens Christian Meier from ECCO, Claus Hegelund Sørensen and Tom Toft Krag from LINAK, Anders Rødgaard Knudsen from Ramboll Oil & Gas, Karsten Lund from Exhausto and John Raabo Nielsen and Niels Fogelstrøm from Coloplast.

At Implement Consulting Group, we work in a unique professional environment that has allowed us to develop the ideas for this book. We would like to thank the many colleagues we have worked with on innovation issues. And special thanks to John Ryding Olsson and Henrik Tufvesson for their critical and constructive feedback on the chapters in this book. We would also like to express our gratitude to Tine Søderberg and Caroline M. Gullacksen for their work on the illustrations and page set-up.

Copenhagen, September 2010
Claus Sehested and Henrik Sonnenberg
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Part I
Understanding the Background
Introduction

What is Lean Innovation?

‘Lean’ means thin and well-trimmed. Working with lean means working systematically to eliminate all non-value-adding processes in order to achieve your goals with the least possible effort. Unnecessary work, or waste, is used in this connection as an umbrella term for anything that does not create customer value. In the search for waste, you need to look for anything that ‘can’t be invoiced’. Waste is what the customer won’t pay for. Eliminating waste is also a good idea from the point of view of the employee: No one likes to produce something that isn’t used.

Innovation is about creating value by solving problems. Creativity is a pre-requisite for problem-solving and is brought into play at various points during the process. But creativity alone is not enough. It needs to be put into a framework ensure that the solutions are actually put to use. Innovation is also about knowledge. At the beginning of an innovation process, the knowledge you have about the problem you are trying to solve is usually limited. Through the process, you learn more about the problem and its possible solutions. And based on this knowledge you choose between different possible solutions. This makes innovation a learning and prioritization process.

In this book, we use the term innovation broadly to include research, R&D, product and service development and other types of development work in both the private and public sectors.

Lean innovation is about working efficiently with knowledge. Put simply, lean innovation is about getting smart fast. Cut to the bone, lean innovation helps a company do three fundamental things. First to ‘do the right thing’, then to ‘do it right’ and finally to ‘do it better’ all the time.
Introduction

Figure 0.1. Three Paths to Efficiency

‘Do the right thing’
Doing the right thing is the easiest way to avoid waste. In innovation, this means using your technical competencies to meet the customer’s needs and avoiding over or underdeveloping the solution. In practice, it is about properly communicating expectations to the recipients of the work. This includes both internal and external customers. Because needs and expectations are not static, and because innovation is a learning process, it can be useful to maintain a close dialog with the customers throughout the innovation process.

‘Do it right’
Doing it right means optimum planning of the work process that leads to the solution. The challenge in innovation is that the problems you need to solve are always new and therefore require individualized processes, also called value streams. Consequently, it is necessary to create a new value stream every time you create a solution. In innovation, the value stream is the same as the project plan.

‘Get better’
Working with lean means continually evaluating your work and making improvements. In fact, it means making continuous improvements an integral part of the way you think. Of course, it is always best to make improvements that have a significant impact, but the need for major improvements can be a symptom that not enough small improvements have been made. When you work
with lean innovation, you create a system and rituals for continuous improvements that become part of your daily routines.

**Fast from Knowledge to Value**

Why should companies work with lean innovation? Because outside factors make action necessary. In today’s globalized world, a company’s strategic situation changes very quickly: Market opportunities arise, competition increases and new collaborative networks and customer groups develop. In order to stay ahead of the game, companies need to develop a strategic agility that enables them to capture movements and opportunities in their surroundings and quickly change their strategic course. But this ability is worthless if companies are not also able to react quickly within their organizations. It is crucial that the strategies are transformed into action more quickly.

This places pressure on the innovation process, as it is through this process that a large share of the strategies are realized. Developing faster innovation processes with more predictable output is a strategic necessity. This is where lean plays a central role.

In autumn 1996, James P. Womack and Daniel T. Jones finished their book *Lean Thinking*. It became the starting point of a rather remarkable revolution in production, and people quickly developed a massive interest in the results that could be achieved with lean. And these results were actually being created in an environment that, even before lean, had always focused on improvements, efficiency, measurement and follow-up.

In innovation, the improvement potential is even greater than in production. In a production process, there is a limit to how much costs can be reduced. In an innovation process, however, the primary objective is not to reduce costs. This is not unimportant, of course, but innovation is first and foremost about getting solutions out to the customers quickly and creating solutions that are so innovative that you expand your market or create an entirely new market.

If you consider Figure 0.2 on the improvement potential that exists from identifying a customer need until a solution is delivered, there are more opportunities to bring new thoughts into play early rather than later in the process. The closer you get to the ‘delivered solution’, the more you are bound by the decisions that have already been made.
While lean production deals with creating value in the late phases of the above process, lean innovation is about creating value in the early phases.

**Having Your Cake and Eating it Too**

Many companies that try to create more value and efficiency in their innovation work discover that the concept of efficiency is rather taboo. Some developers and specialists feel the need for more efficiency is an indirect criticism of their work. And they have no problems explaining to managers, who may be very far removed from the development work, that increasing efficiency would destroy innovation quality. Many well-meaning, but top-down implemented, streamlining initiatives have failed because the people who were responsible for the changes did not understand the essence of the innovation work.

However, there is a way to overcome these challenges. It requires embracing the paradox between efficiency and creativity and taking a structured approach to solving it. Innovation people are experts at solving paradoxes, because that is the key to all innovative solutions.

It is a common assumption that there is always a trade-off between input and output. To achieve more output, you need a corresponding increase in input. For example, it used to be commonly assumed that a light bulb had to consume more energy in order to produce a stronger light, and that lowering the fat content in food reduces the flavor. The best developers question such conventions and what ‘everyone says’. That is what makes working on development projects exciting, and that is the driving force of innovation.

Many talented developers, fueled by big dreams, have rejected existing conventions to create innovative solutions. The developers have moved from ‘trade-off’ to what we call ‘trade-on’. They have solved the paradox. The best innovations make it possible to have your cake and eat it too.

But is it possible to be efficient and creative at the same time? Is it possible to solve the paradox between lean and innovation? Yes, it is. And if you succeed, the potential is practically endless.
Our Aim with this Book

We decided to write a book for managers – both those with daily responsibility for innovation and business development and those who want to stay in touch with developments in the area. With this book, we want to make managers think about their current organizations and reflect on how their own management thinking and behavior influences the organization and the organization’s ability to innovate.

This book is not a methodology book, and it does not introduce a complete development system or an exhaustive list of lean methods. The methods described here are only provided to illustrate the points in the book. This book also contains a number of examples of what other companies have done to improve their innovation work.

The Case Companies

The examples of challenges and practical implementation included in this book come from a number of companies that have worked with lean innovation. Before we proceed, we would like to introduce the five case companies:

ECCO aims to be the most recognized brand within innovative and comfortable footwear. The company was founded in 1963 and has revenue of EUR 720 million and 16,000 employees. Today, the company has its own global concept stores, production facilities and development functions.

ECCO’s products are based on a unique manufacturing technology in which the sole and the upper are molded together using a special injection technique. The product development takes place in Portugal, Thailand, Denmark and the Netherlands, and involves leading external designers.

LINAK has a vision to improve people’s quality of life and working environment through products featuring linear actuators. Actuators are used in such products as automatic height-adjustable desks and hospital beds. LINAK started manufacturing actuators in 1980 and has facilities in China and Denmark. The company has experienced significant growth and has revenue of approx. EUR 270 million and 1,600 employees.

The key to LINAK’s success is their ability to find simple and lasting solutions to complex problems in close collaboration with their customers.
Ramboll Oil & Gas is an engineering consultancy firm with the ambition to become one of the world’s largest in the sector. Its customers are international energy companies. The firm has revenue of approx. EUR 75 million and 650 employees located in Denmark, Norway, the UAE, India and the UK. It is part of the Ramboll Group, which has a total staff of 8,000 employees.

For Ramboll Oil & Gas, customer-oriented processes represent a strategic competency that is intended to drive growth. The projects require multi-discipline teams working together locally and across offices all over the world.

Exhausto produces ventilation solutions that improve people’s health and well-being. The company develops components for ventilation systems. It was established in 1957 and has since grown to 300 employees, with revenue of EUR 54 million. Exhausto has decided that the company should be characterized by the lean concept of ‘flow’, and that the business processes should be developed through continuous improvements.

Coloplast’s goal is to make life easier for people with intimate and personal treatment needs in the areas of ostomy, incontinence and urology. Coloplast, which is headquartered north of Copenhagen, Denmark, has developed and manufactured health care products since 1957. Its annual revenue is now EUR 1.2 billion. The company operates globally and has approx. 7,000 employees.

Coloplast has a unique ability to understand the situations and daily lives of patients and nurses, and to incorporate this knowledge in their innovation work.

In addition to these case companies, the book also contains examples from leading global innovators.

**Structure of the Book**

The first part of the book discusses what companies can get out of streamlining the innovation process and establishing a basic understanding of both innovation and lean innovation. We then describe lean innovation within the relevant action areas, illustrated with specific examples. Finally, the book examines the challenges companies face when they begin implementing lean innovation.

Chapter 1 explores the potential of streamlining innovation. It presents the case companies’ motivation for working with lean innovation along with the results they have achieved.
Chapter 2 takes a closer look at innovation and at what takes place during the innovation processes. It is important to understand the mechanisms in innovation in order to be able to develop the process.

Chapter 3 introduces lean innovation. This chapter presents the key concepts, principles and methods, and they are explained in relation to the mechanisms in innovation.

Chapter 4 presents a model that divides lean innovation into action areas. These are each treated differently, but together they represent a lean innovation system.

Chapter 5 highlights management as an important element in lean innovation. Lean innovation is a management philosophy that impacts how leaders improve their roles and how they choose to behave.

Chapter 6 focuses on portfolio management as an independent action area. It is an overlooked discipline in many companies. However, when handled properly, it can establish a healthy framework for the projects.

Chapter 7 provides a number of tools for ensuring the right focus and cooperation within the projects through commitment from all participants.

Chapter 8 looks to the relationship between the project managers and the support functions that deliver sub-solutions for the projects. How do you ensure good interaction and achieve efficiency in the project activities of the support functions?

Chapter 9 looks forward at the implementation of lean innovation in the company. How do you find the motivation to realize the transformation, and how do you initiate the process?
Chapter 1
The Potential of Lean Innovation

Innovation processes play a key role in realizing a company’s strategic ambitions. The strategic need for agility and value creation forces companies to develop their innovation processes. For companies in global competition, the innovation machine needs to be well-oiled in order to produce good results quickly and with great predictability. So, is this the case?

In 2008, Boston Consulting Group (BCG) and BusinessWeek asked 3,000 global senior executives whether they were satisfied with the benefit their company obtained from its innovation processes. More than half responded no. Furthermore, more than 60 percent stated that innovative ability was one of the three most important strategic challenges. Innovation is considered important, but is not functioning satisfactorily. So there is room for improvement in a lot of companies.

A closer look at the responses from the senior executives reveals that they consider lengthy development times, a risk-averse culture, difficulties prioritizing ideas and poor coordination within the company to be the biggest obstacles to creating value from innovation. All of these challenges relate to how we lead and organize the innovation processes within the company. It is also interesting that ‘lack of good ideas’ is far down the list. So the problem is not so much ‘what’ but rather ‘how’. The senior executives see a need to improve the ability to prioritize and execute projects.
Figure 1.1. The Biggest Obstacles to Creating Value from Investments in Innovation, According to Global Senior Executives

Generating Return on Innovation

As illustrated previously, the potential for value creation is greater for innovation than for production. There is a limit to how much you can achieve by streamlining production. In innovation, there is no upper limit to value creation: “Only the sky is the limit.” When it comes to innovation, it is therefore much more interesting to focus on what you get from your investments than on how you can reduce costs. ‘Innovation costs’ is actually not a very appropriate term because it suggests that innovation is an operational cost that needs to be kept down. ‘Innovation investments’ is a better term.

And a look at corporate budgets reveals that spending in innovation is far from small change. In 2007, Nokia, in Finland, spent an astronomical EUR 5.3 billion on R&D, corresponding to more than 10 percent of their revenue. Nokia holds 40 percent of the global market for cell phones, and launches approx.