

Dismantling The Box of Preconceptions

Reducing
Influence of the Past on the Future

Stephen Fox | Päivi Vahala



Dismantling The Box of Preconceptions

Reducing
Influence of the Past on the Future

Stephen Fox and Päivi Vahala

VTT Technical Research Centre of Finland Ltd



ISBN 978-951-38-8454-3 (URL: <http://www.vttresearch.com/impact/publications>)

VTT Technology 271

ISSN-L 2242-1211

ISSN 2242-122X (Online)

<http://urn.fi/URN:ISBN:978-951-38-8454-3>

Copyright © VTT 2016

JULKAISIJA – UTGIVARE – PUBLISHER

Teknologian tutkimuskeskus VTT Oy

PL 1000 (Tekniikantie 4 A, Espoo)

02044 VTT

Puh. 020 722 111, faksi 020 722 7001

Teknologiska forskningscentralen VTT Ab

PB 1000 (Teknikvägen 4 A, Esbo)

FI-02044 VTT

Tfn +358 20 722 111, telefax +358 20 722 7001

VTT Technical Research Centre of Finland Ltd

P.O. Box 1000 (Tekniikantie 4 A, Espoo)

FI-02044 VTT, Finland

Tel. +358 20 722 111, fax +358 20 722 7001

Preface

Preconceptions have been defined as being ideas formed in advance before one can possibly know or form a reliable opinion. The limiting influence of preconceptions is summarized in a variety of phrases such as:

to a hammer, everything looks like a nail;
we do not see things as they are, we see them as we are;
believing is seeing.

Preconceptions can lead to people seeing a wide variety of many new situations as being much the same as a few old situations. As a result, people can continually make recurring judgements about new situations that they perceive to be the same as old situations. At work, basing thought and actions on preconceptions can be described as professional deformation, job conditioning, occupational psychosis, and/or Einstellung Effect. All of these terms encompass a tendency to think and act based on preconceptions; rather than based on grasp of up-to-date information and use of better new options. In industries, preconceptions can include beliefs that only incremental process innovations are needed and/or possible, rather than transformational product innovations. Accordingly, many established organisations are overtaken by new market entrants with transformational offerings. Many methods to facilitate “thinking outside the box” of preconceptions are described in the literature. However, less consideration has been given to reducing the limiting influence of preconceptions in order to increase the potential scope of innovative thinking. In other words, less consideration has been given to “dismantling the box”. In this publication, resources are provided for “dismantling the box” of preconceptions. All of these have been developed in accordance with findings and theories from scientific research. In addition, they have been field trialled successfully.

Contents

Preface	3
1. Introduction	5
2. The Box of Preconceptions	6
3. Pictures of Preconceptions	9
4. Box Templates	17
4.1 Box template in English language	18
4.2 Box template in Basque language.....	20
4.3 Box template in Portuguese language.....	22
4.4 Box template in Spanish language	24
Acknowledgements	26
References	27

1. Introduction

In the subsequent sections, resources are provided for “dismantling the box” of preconceptions. In particular, for “dismantling the box” of the following six preconceptions related to technology transfer into industry: management fads, path dependencies, technology hype, lock-ins, success traps and groupthink.

Fads, which are marketed as panaceas, can lead to preconceptions about what is the best course of action to take. Having started out on a path based on a fad, preconceptions about the best course of action to take can become path dependent. Technology hype can also lead to preconceptions about what is the best course of action to take. This happens because hype draws attention to potential positive effects, while excluding or under emphasising a new technology’s dependencies on other factors and its potential negative effects. Lock-in can follow investment in a particular fad, hype, and/or path because of preconceptions that there has already been too much invested to quit. In addition to the external influences of fads and hype, path dependency and lock-in can arise from a success trap. This involves a period of successful organizational performance leading to preconceptions about what makes success for all time into the future. Common across fads, path dependencies, hype, lock-ins, and success traps can be the influence of groupthink. This can involve development of a shared preconception that the opinion of the group is the best opinion.

In order to “dismantle the box”, preconceptions need to be made explicit. This can be achieved through the use of cartoons and artefacts. In particular, visual humour through cartoons is used in a wide variety of serious fields, such as chemistry and economics, to increase engagement and understanding. At the same time, pictures yield a perceptual code and a verbal code in memory which doubles the chances of retrieval. Together, cartoons and text can make potentially abstract concepts, such as preconceptions, much more concrete. This, in turn, can increase comprehensibility, interest, and recall. Preconceptions can be made even more tangible through the use of artefacts, which people can handle. In particular, recurring subconscious patterns, in this case inter-related sources of preconceptions, can be eliminated by bringing them into consciousness and articulating them through hand movements. Here, a folding box, 75 millimetres square, is used. The box, which has been field trailed successfully, is shown in the following section. Then, materials are provided for making the box.

2. The Box of Preconceptions

The following three photographs show the Box of Preconceptions assembled and closed, and opened and flat. The Box of Preconceptions should be given to people in its assembled and closed state. Each Box of Preconceptions should be given to one person. Then, each person should individually take apart their own Box of Preconceptions.



**if you want to
Think Originally**

**take this box apart
and the six types of
misconceptions
shown inside**



3. Pictures of Preconceptions

Larger scale versions of the six cartoons shown inside the Box of Preconceptions are presented on the following pages together with short explanatory text.

- Management Fads
- Path Dependencies
- Technology Hype
- Lock-In
- Success Traps
- Groupthink



MANAGEMENT FADS

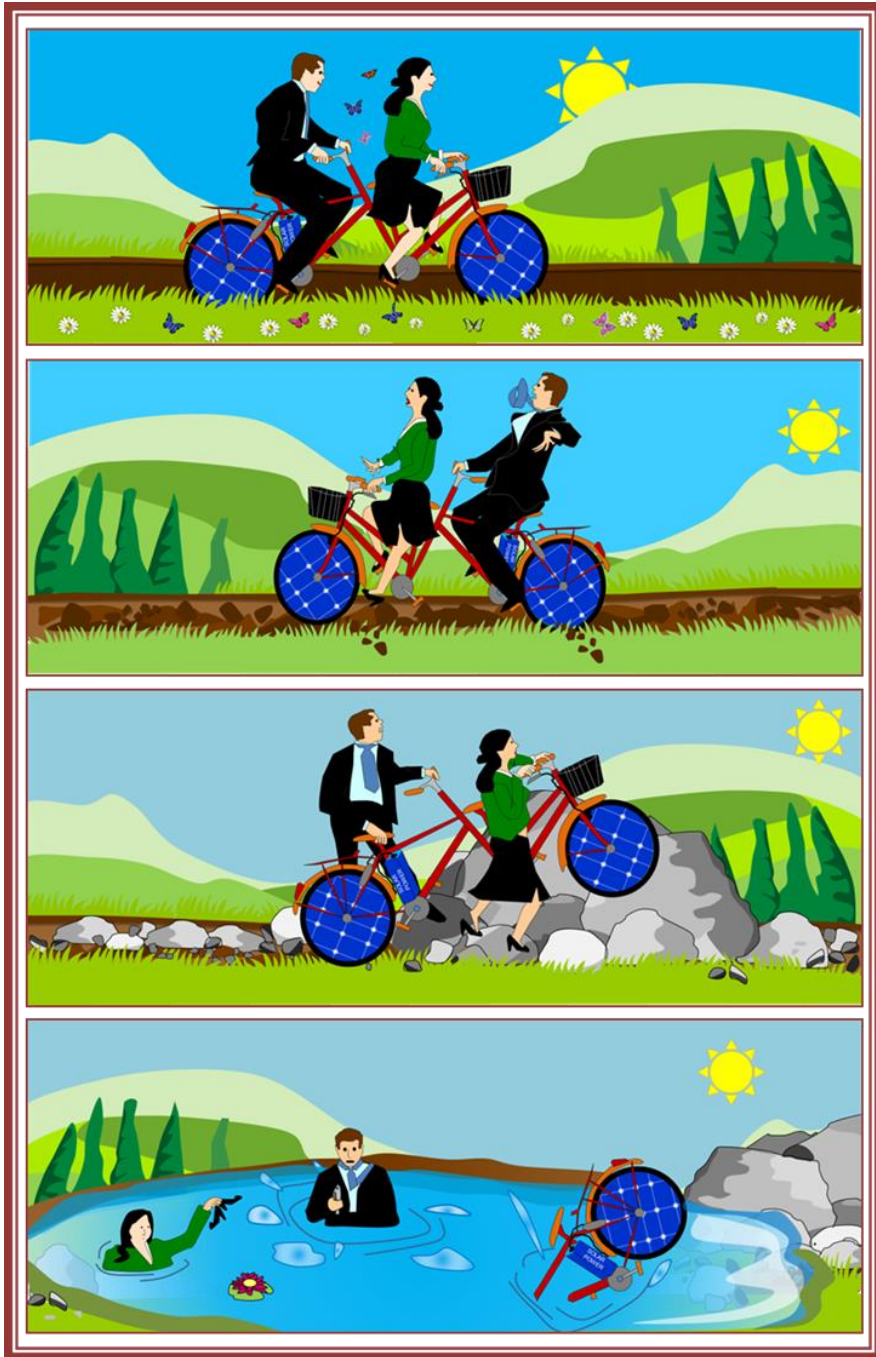
are often claimed, incorrectly, to be effective for any organization in any culture.

Perceptions of management fads can be based more on social factors, such as fear of not being up-to-date, than on technical content.



PATH DEPENDENCIES occur when people perceive continuing along an established path to be more cost efficient and comfortable than creating a new path.

This can involve continuing with established practices and pursuing established strategies when they are out of date.



TECHNOLOGY HYPE

Human perceptions
are remarkably susceptible
to the manner in
which new options are framed.

Hype draws attention to potential
positive effects while
excluding or under emphasising a
new technology's dependencies
on other factors and its potential
negative effects.

Susceptibility continues despite
cycles of hype and disappointment.



LOCK-IN


is a style of psychological coping. During lock-in, escalation of a course of action is perceived to be the best option – despite evidence against escalation.



SUCCESS TRAPS

involve

continuing exploitation
of their previous investments
which have been successful, and
underemphasizing the need to
make new explorative investments.



The illustration shows a group of six people in business attire. A large thought bubble above them contains the word "Efficiency". Below the bubble, a line of smaller thought bubbles connects to each person. From left to right: a woman in a green dress holds a cage with a person inside; a woman in a red top and grey skirt holds a document; a man in a suit sits on a red bicycle; a woman in a blue dress sits on a red bicycle; a woman in a blue dress carries a bag; and a man in a dark suit carries a cage with a person inside. The man on the far right is walking away from the group.

During **GROUPTHINK**, participants perceive conformity to be of primary importance. This leads to dysfunctional or irrational decisions.

In mature industries, groupthink can congregate around fads, dependencies, hype, and/or lock-ins about improving operating efficiency.

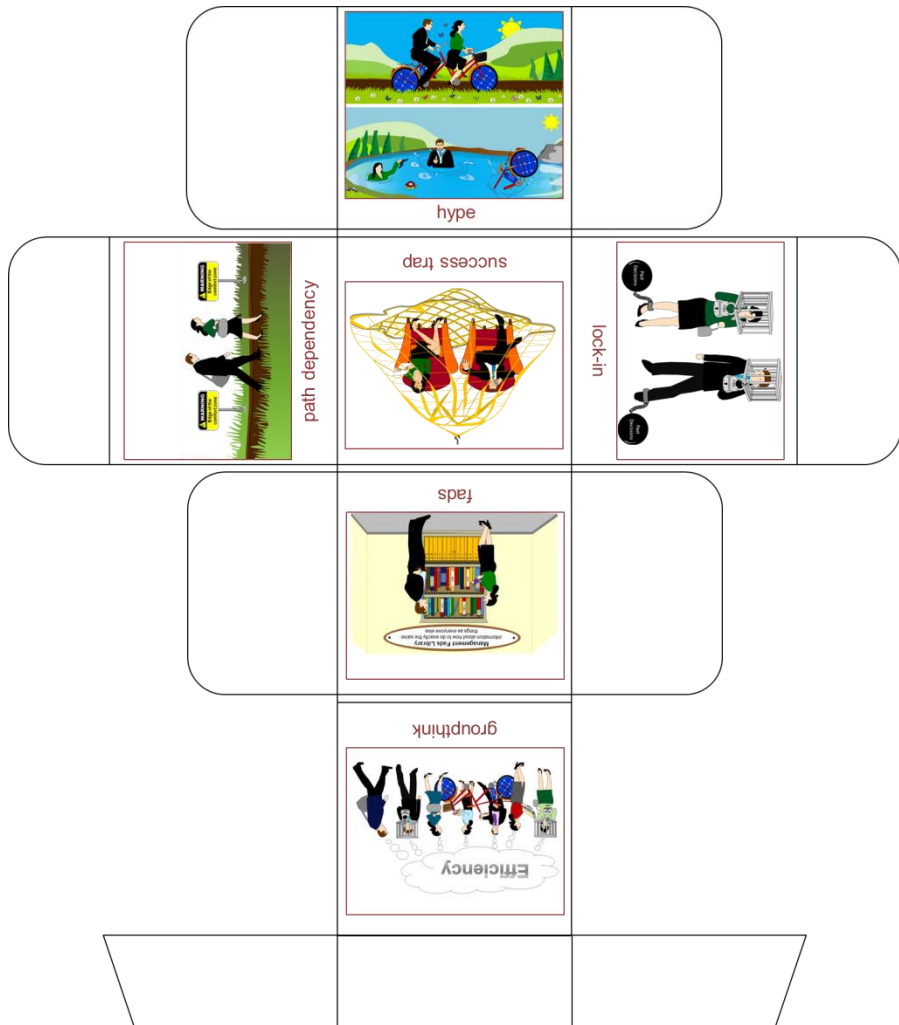
4. Box Templates

In this section, templates are provided for the Box of Preconceptions. In order to make the box take the following steps:

- 1) print out the template double sided (long edge left) onto A3 size 80 g white paper;
- 2) fold the template into the box shape;
- 3) unfold the box and lay completely flat;
- 4) laminate the box with 75u thick laminate;
- 5) fold the laminated template into the box shape.

Please note that it is necessary to use the stated thicknesses of paper and of laminate for the box to keep its shape. Also, it is necessary to fold before (2) and after laminating (5) for the box to keep its shape.

4.1 Box template in English language



THE BOX

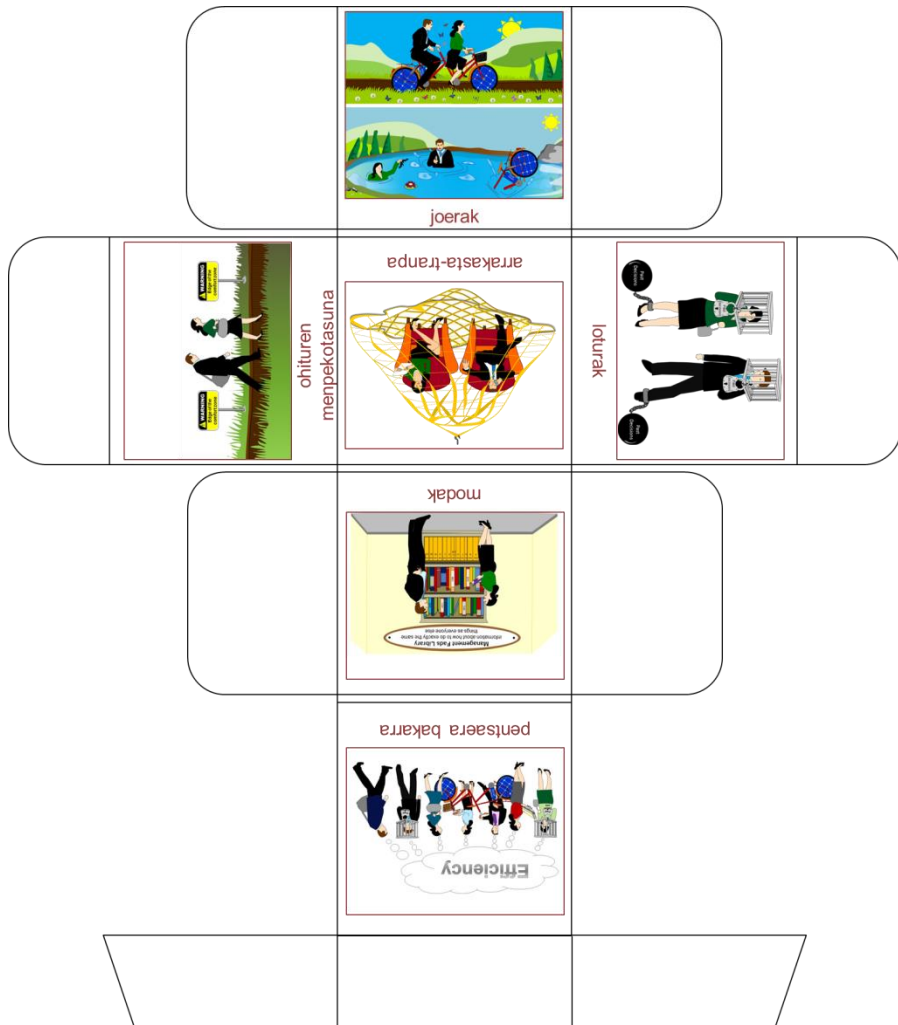
©
S Fox
P Vahala
VTT

THE BOX

**if you want to
Think Originally**

**take this box apart
and the six types of
preconceptions
shown inside**

4.2 Box template in Basque language



KUTXA

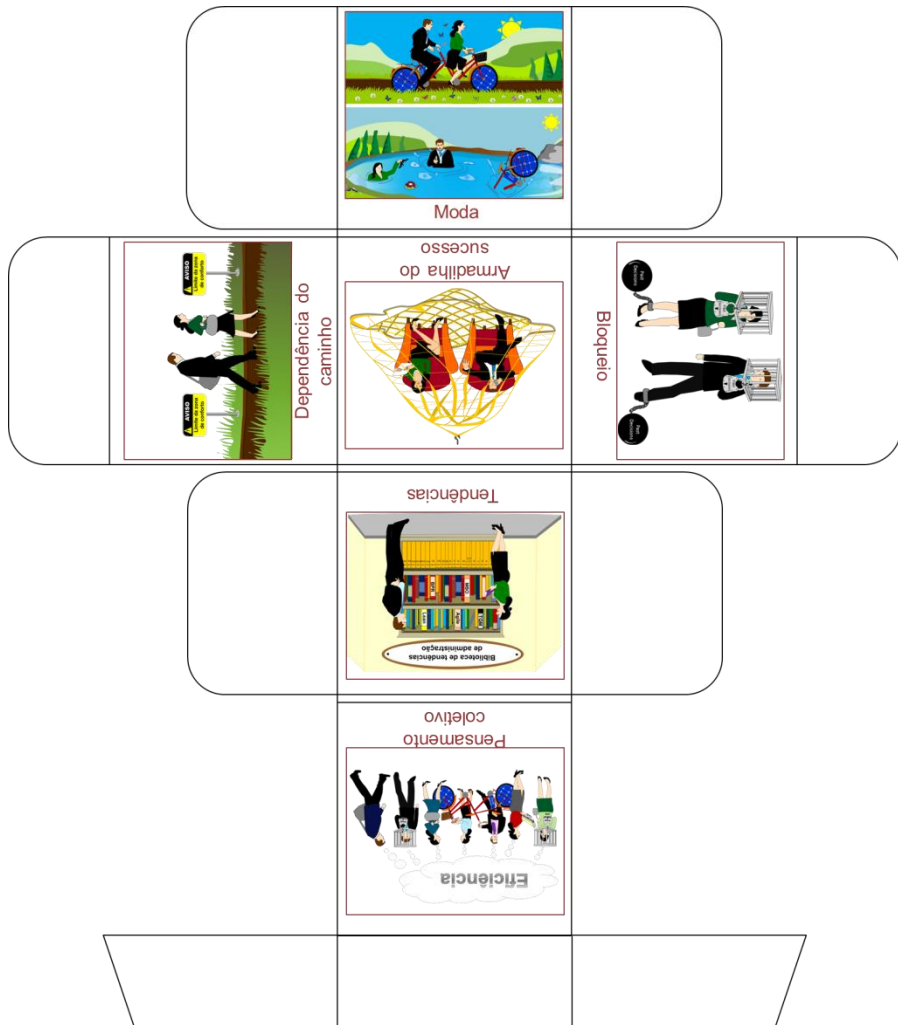
©
S Fox
P Vahala
VTT

KUTXA

**Desberdin pentsatu
nahi baduzu**

**Ireki kutxa hau eta
aztertu barruan
dauden sei motatako
aurreiritziak**

4.3 Box template in Portuguese language



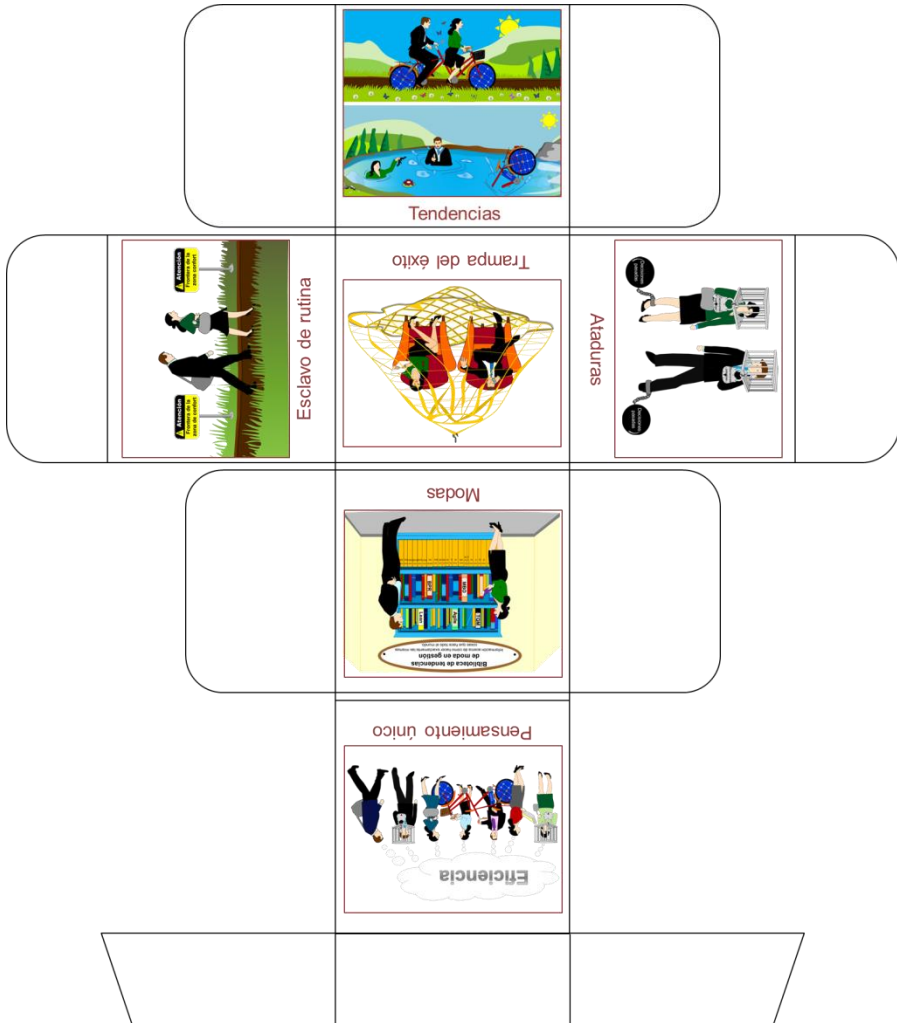
A CAIXA

©
S Fox
P Vahala
VTT

A CAIXA

Se quer **Pensar com Originalidade**
desfaça esta caixa e
os seis tipos de
preconceções
apresentadas
aqui dentro

4.4 Box template in Spanish language



LA CAJA

©
S Fox
P Vahala
VTT

LA CAJA

**Si quieres pensar de
manera original**

**Abre esta caja, dentro
se muestran las 6
barreras**

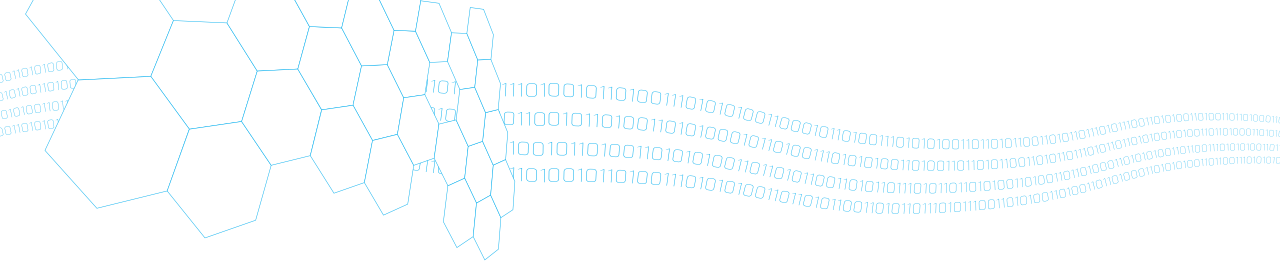
Acknowledgements

Partial funding was received from the EU project Use-It-Wisely. Language translations and field testing was carried out together with the EU project ProSEco

References

- Fox, S. 2016. Dismantling the box: application of principles for reducing preconceptions during ideation. *International Journal of Innovation Management*, 20(6), 1650049.
- Fox, S. 2009. Information and communication design for multi-disciplinary multinational projects. *International Journal for Managing Projects in Business*, 2(4), 536-560.

Title	Dismantling – The Box of Preconceptions Reducing – Influence of the Past on the Future
Author(s)	Stephen Fox and Päivi Vahala
Abstract	<p>Preconceptions have been defined as being ideas formed in advance before one can possibly know or form a reliable opinion. The limiting influence of preconceptions is summarized in a variety of phrases such as: to a hammer, everything looks like a nail; we do not see things as they are, we see them as we are; believing is seeing. Preconceptions can lead to people seeing a wide variety of many new situations as being much the same as a few old situations. As a result, people can continually make recurring judgements about new situations that they perceive to be the same as old situations. In this publication, resources are provided for "dismantling the box" of preconceptions. All of these have been developed in accordance with findings and theories from scientific research. In addition, they have been field trialled successfully.</p>
ISBN, ISSN, URN	ISBN 978-951-38-8454-3 (URL: http://www.vttresearch.com/impact/publications) ISSN-L 2242-1211 ISSN 2242-122X (Online) http://urn.fi/URN:ISBN:978-951-38-8454-3
Date	August 2016
Language	English
Pages	27 p.
Name of the project	
Commissioned by	
Keywords	Preconceptions, bias, ideation, innovation
Publisher	VTT Technical Research Centre of Finland Ltd P.O. Box 1000, FI-02044 VTT, Finland, Tel. 020 722 111



**Dismantling
The Box of Preconceptions**
Reducing
Influence of the Past on the Future

ISBN 978-951-38-8454-3 (URL: <http://www.vtresearch.com/impact/publications>)
ISSN-L 2242-1211
ISSN 2242-122X (Online)
<http://urn.fi/URN:ISBN:978-951-38-8454-3>

