Creativity in product innovation

*Creativity in Product Innovation* describes a remarkable new technique for improving the creativity process in product design.

Certain “regularities” in product development are identifiable, objectively verifiable and consistent for almost any kind of product. These regularities are described by the authors as “Creativity Templates.” This book describes the theory and implementation of these Templates, showing how they can be used to channel the ideation process and thus enable people to be more productive and focused.

Representing the culmination of years of research on the topic of creativity in marketing, the Creativity Templates approach has been recognized as a breakthrough in such journals as *Science, Journal of Marketing Research, Management Science* and *Marketing Science*. It has been successfully implemented through workshops in international companies including Philips Consumer Electronics, Ford Motor Co., Ogilvy & Mather Worldwide, Kodak, Coca-Cola and many others.

**Dr Jacob Goldenberg**, senior lecturer at the Hebrew University of Jerusalem School of Business Administration, is a leading expert on creative thinking and product development. He has taught courses and workshops in inventive thinking for hi-tech companies and marketing organizations in both Israel and the United States, and has worked with companies such as Scitex, Intel, Motorola, Coca-Cola, Mastercard, Ogilvy & Mather and Rapp & Collins. He received a joint PhD degree on this topic from the School of Business Administration and the Racah Institute of Physics at the Hebrew University of Jerusalem, *Summa Cum Laude*. His bachelor’s degree was in aeronautical engineering and his master’s degree in mechanical engineering. Jacob has published many papers in leading journals, including *Science, the Journal of Marketing Research, Marketing Science* and *Management Science*.

**Prof. David Mazursky** is an internationally acclaimed marketing expert and a prolific author. He received his PhD in marketing from the Graduate School of Business Administration at New York University. A professor at the Hebrew University of Jerusalem, School of Business Administration, he is currently the head of the PhD committee at the university’s School of Business Administration, and the director of The K-Mart Center for Retailing and International Marketing. His theories and research have been widely published in leading journals, including the *Journal of Marketing Research, the Journal of Consumer Research, Marketing Science, Organizational Behavior and Human Decision Processes, the Journal of Applied Psychology, the Journal of Experimental Social Psychology, Management Science and Science*. 
Creativity in product innovation

Jacob Goldenberg

and

David Mazursky
CAMBRIDGE UNIVERSITY PRESS
Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo, Delhi

Cambridge University Press
The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org
Information on this title: www.cambridge.org/9780521002493

© Cambridge University Press 2002

This publication is in copyright. Subject to statutory exception
and to the provisions of relevant collective licensing agreements,
no reproduction of any part may take place without
the written permission of Cambridge University Press.

First published 2002
Seventh printing 2008

Printed in the United Kingdom at the University Press, Cambridge

A catalogue record for this publication is available from the British Library

Library of Congress Cataloguing in Publication data
Goldenberg, Jacob.
Creativity in product innovation / Jacob Goldenberg and David Mazursky.
p. cm.
Includes bibliographical references and index.
ISBN 0 521 80089 7
HF5415.15.G598 2001
658.5 7–dc21 2001018106

ISBN 978-0-521-80089-1 hardback
ISBN 978-0-521-00249-3 paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs
for external or third-party internet websites referred to in this publication, and does not
guarantee that any content on such websites is, or will remain, accurate or appropriate.
Information regarding prices, travel timetables and other factual information given in
this work are correct at the time of first printing but Cambridge University Press does
not guarantee the accuracy of such information thereafter.
Contents

Preface xi
Acknowledgements xiii

Introduction: characterization and illustration of Creativity Templates 1

Part I Theoretical framework

1 Codes of Product Evolution – a Source for Ideation 13

Market-based vs. product-based information 13
Sources of information for new products 13
Critical evaluation of market-based information at the micro level:
limitations of current product users 16
Critical evaluation of market-based information at the macro level:
the diffusion of awareness about a new idea 17
Implications of the S-shaped curve analysis 21
A proposition, a derivative and a dilemma 22
Information inherent in the product reflects market needs 23
The value of market research reconsidered 26
References 27

2 Revisiting the View of Creativity 29

Operational definition of creativity 29
Igniting the “creative spark” 30
Typology of research streams: the creative person, process and idea 31
Balancing surprise and regularity 35
3 A Critical Review of Popular Creativity-enchancement Methods

Brainstorming 45
Lateral thinking 53
“Six Thinking Hats” 54
Mind mapping 54
Random stimulation 54
References 55

Part II The Creativity Templates

4 The Attribute Dependency Template

An antenna in the snow – a detailed illustration 59
A disadvantage turned into an advantage 62
Generalization of the Attribute Dependency Template – an innovative lipstick 62
The basic principle of Attribute Dependency 63
How to compete with “Domino’s Pizza” – a hypothetical case 66
Making a better candle 71
Are accidents necessary for locating ideas for new products? 73
Attribute Dependency – between attributes vs. within attributes dependency 74
Cycles of dependencies 75
Summary 75
References 75
# Contents

## 5 The Forecasting Matrix

Searching for Attribute Dependency 76  
Classification of variables 76  
The forecasting matrix 78  
Forecasting matrix – analyzing baby ointment 89  
Managing the ideation process issues 94  
Improving scanning efficiency through heuristics 96  
Summary 97  
Operational prescription 98  
References 98

## 6 The Replacement Template

What is the Replacement Template? 99  
Implementation of the Replacement Template 104  
Case study 1 – a chair 109  
Case study 2 – a scanner 114  
Case study 3 – butter patties 116  
When is exclusion appropriate? 119  
Case study 4 – Nike-Air® ads 119  
Case study 5 – Bally shoe ads 122  
Replacement vs. Attribute Dependency 122  
Operational prescription 123  
References 123

## 7 The Displacement Template

What is the Displacement Template? 124  
Displacement is not unbundling 127  
Implementation of the Displacement Template 128  
Observations on the Displacement Template 130  
Operational prescription 132  
References 133
# Contents

## Part III  A closer look at Templates

### 9  Templates in Advertising

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>147</td>
</tr>
<tr>
<td>The fundamental templates of quality advertisements</td>
<td>148</td>
</tr>
<tr>
<td>Approaching creative advertising</td>
<td>152</td>
</tr>
<tr>
<td>Demonstrating Templates in advertising</td>
<td>153</td>
</tr>
<tr>
<td>Template distribution</td>
<td>163</td>
</tr>
<tr>
<td>Implications of Creativity Templates on creative execution in advertising</td>
<td>164</td>
</tr>
<tr>
<td>References</td>
<td>166</td>
</tr>
</tbody>
</table>

### 10  Further Background to the Template Theory

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space</td>
<td>168</td>
</tr>
<tr>
<td>Characteristics</td>
<td>168</td>
</tr>
<tr>
<td>Links</td>
<td>169</td>
</tr>
<tr>
<td>Configuration</td>
<td>170</td>
</tr>
<tr>
<td>Operators</td>
<td>171</td>
</tr>
<tr>
<td>Creativity Templates as macro operators</td>
<td>173</td>
</tr>
<tr>
<td>References</td>
<td>176</td>
</tr>
</tbody>
</table>
Part IV Validation of the Templates theory

11 Demarcating the Creativity Templates

Mapping research: toward a product-based framework for Templates definition 179
Can Templates explain and predict the emergence of blockbuster products? 180
Can training in Templates improve creativity and quality of product ideas? 184
How effective are the Templates? 185
How effective is the Attribute Dependency Template? 188
Conclusions 194
References 195

12 The Primacy of Templates in Success and Failure of Products 197

Introduction 197
Predicting new product success 197
Early determinants 200
Project-level determinants of new product success 202
Hypotheses regarding the predictive power of Templates and other early determinants 204
Study 1: predicting success of patented products 205
Study 2: the unified model 206
Why early determinants can predict success 211
Conclusions of the empirical studies 213
Appendix 214
References 216

Index 219
Creativity in Product Innovation presents the culmination of years of research on the topic of creativity in marketing. Creativity has been a hot topic for many years in self-improvement books and articles. Creativity in Product Innovation brings a new dimension to the academic philosophies now beginning to emerge on the subject. This new paradigm has been recognized as a breakthrough in major scientific journals (e.g., Science, Journal of Marketing Research, Marketing Science, Management Science and Technological Forecasting and Social Change).

Breaking away from traditional postures, we posit that marketers may hear the voice of the customer by listening to the voice of the product. We further propose that the product itself contains necessary and sufficient information to serve as a basis for innovation, especially in cases of mutable and inconsistent markets. Certain regularities in product development are identifiable, objectively verifiable, learnable and consistent across product classes. These regularities, which we term Creativity Templates, can be used to channel the ideation process and thus enable people to be more productive and focused.

Research indicates that approximately 70 percent of successful new products match one of the Creativity Templates to be described in this book. Likewise, the failure rate of products developed according to the Templates is phenomenally low: only 8 percent as compared to a general failure rate of some 60 percent for all new products. Although the deliberations focus on the field of business, especially new product and service development, and to advertising and technology, the paradigm may bear much wider implications.

The system presented in this book allows anyone to manage a “reservoir” of defined practical mental constructs that may help tackle different problems encountered in daily life. Experiments showed that individuals trained in the Creativity Template approach were able to generate superior new product ideas to those generated by untrained individuals or people using rival methods – as judged by experts in their fields who were blind to the existence
of Templates. In addition, most of those Template-fostered ideas were not replicated in any other ideation schematic.

This book will appeal to scholars and researchers, students of business and marketing managers, brand and product managers, consultants, business executives, as well as lay people interested in creativity and innovation. The Creativity Templates approach has already been implemented through workshops by SIT Int. in international companies such as Philips Consumer Electronics, Ford Motor Co., Ogilvy and Mather Worldwide, McCann/Erickson Worldwide, Motorola, Curver/Rubbermaid, Kodak, Scitex, Intel Corp., Coca-Cola, Mastercard and Rapp and Collins.
Acknowledgements

We wish to thank the hundreds of students and workshop participants who contributed by their remarks and activities to the formulation and consolidation of our theory. We thank all those who provided us with the knowledge and experience they had gained, which were woven into this book: Shuki Berg, Sol Efroni, Avner Egozi, Danit Einan, Omri Herzug, Ronni Horowitz, Meir Karlinski, John Kearon, Don Lehman, Amnon Levav, Haim Peres, Ginadi Pilkowski, Ed Sicfaus and Craig Stephan. Special thanks are due to Prof. Sorin Solomon for his inspired substantive contribution. We also extend our special thanks to Dr Idan Yaron, who edited the book and contributed to the crystallization of the structure, to Amnon Levav and SIT Int. for training people and validating the approach proposed in this book.