

Progress in IS

More information about this series at <http://www.springer.com/series/10440>

Anders Hjalmarsson · Gustaf Juell-Skielse
Paul Johannesson

Open Digital Innovation

A Contest Driven Approach

 Springer

Anders Hjalmarsson
University of Borås & RISE Viktoria
Gothenburg
Sweden

Paul Johannesson
Stockholm University
Stockholm
Sweden

Gustaf Juell-Skielse
Stockholm University & RISE Viktoria
Stockholm
Sweden

ISSN 2196-8705

Progress in IS

ISBN 978-3-319-56338-1

DOI 10.1007/978-3-319-56339-8

ISSN 2196-8713 (electronic)

ISBN 978-3-319-56339-8 (eBook)

Library of Congress Control Number: 2017937286

© Springer International Publishing AG 2017

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Printed on acid-free paper

This Springer imprint is published by Springer Nature

The registered company is Springer International Publishing AG

The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

This book came about to support the practice of contests to manage innovation and to provide a state-of-the art survey for conducting research in open digital innovation contests. Contests combine creativity and business with fun and have become popular means for stimulating the development of services for the digitalization of society.

Through its activity descriptions and guidelines, this book provides a practically useful approach to innovation for managers and policy makers. It helps contest organizers to build the momentum to engage in open data innovation, and it offers a set of strategies for managing innovation barriers. Also, it can serve as a textbook on graduate and undergraduate courses in digital innovation and entrepreneurship.

The content of the book is based on longitudinal action design research that we have conducted over the past five years. It involves multiple digital innovation contests in Europe, Asia and Latin America and has given us access to a rich data set on open innovation. During our research journey, we have been able to support the contest organizers with theoretically anchored advice while at the same time create and field-test the approach presented in the book.

Our thanks to Daniel Rudmark for his contributions in the area of third-party development. Results that have become an integral part of Chaps. 6 and 9. Our thanks also to Workneh Ayele whose work on innovation measurement forms the foundation of Chap. 15 and to Elea Juell-Skielse who developed the initial framework of strategic options presented in Chap. 12. Finally, we want to express our gratitude to Sweden's innovation agency Vinnova for providing the necessary research grants.

Gothenburg, Sweden
Stockholm, Sweden
Stockholm, Sweden

Anders Hjalmarsson
Gustaf Juell-Skielse
Paul Johannesson

Contents

1	Introduction	1
1.1	Introduction	1
	References	3
2	Open Innovation	5
2.1	Models for Open Innovation	6
2.1.1	Crowdsourcing	6
2.1.2	Product Platforming	6
2.1.3	Collaborative Innovation Network	7
2.1.4	Innovation Contest	7
2.2	Digital Innovation	7
2.3	Read More	8
	References	9
3	Open Digital Innovation Contest	11
3.1	Stakeholders in Digital Innovation Contests	11
3.2	Kinds of Innovation Contests	12
3.3	Innovation Contests as Innovation Intermediaries	14
3.3.1	Design Elements of Open Digital Innovation Contests	15
3.3.2	Pitfalls in Organising Innovation Contests	16
3.4	Advantages and Disadvantages of Digital Innovation Contests	17
3.5	Cases as Running Examples in the Book	17
3.6	Further Reading	20
	References	21

4	Organising Open Digital Innovation Contests	23
4.1	A Structured Approach	23
4.2	The Pre-contest Phase	24
4.2.1	Set Goals	24
4.2.2	Engage Stakeholders	25
4.2.3	Design Contest	25
4.2.4	Develop Platform	25
4.2.5	Monitor Contest	25
4.3	The Contest Phase	25
4.3.1	Motivate Developers	26
4.3.2	Manage Operations	26
4.3.3	Evaluate Contribution	26
4.4	The Post-contest Phase	26
4.4.1	Develop Strategy	27
4.4.2	Manage Barriers	27
4.4.3	Design Business Model	27
5	Set Contest Goals	29
5.1	Types of Goals	30
5.1.1	Outside-In Type of Goal	30
5.1.2	Inside-Out Type of Goal	31
5.1.3	Coupled Type of Goals	31
5.1.4	Non-innovation Type of Goal	31
5.2	Relationships Between Types of Goals	32
5.3	Why Are Goals Needed?	32
5.4	Activity Description	32
5.4.1	Sub-activities	33
5.5	Running Example	33
5.6	Guidelines	34
5.7	Read More	34
	References	35
6	Engage Contest Stakeholders	37
6.1	Organizer	38
6.2	Participant	40
6.3	Resource Provider	41
6.4	Beneficiary	43
6.5	Activity Description	44
6.5.1	Sub-activities	45
6.6	Running Example	45
6.7	Read More	46
	Reference	47

- 7 Design Contest** 49
 - 7.1 Designing a Contest Based on a Contest Format 51
 - 7.1.1 Design Elements Given by the Contest Format 52
 - 7.1.2 General Design Elements 53
 - 7.1.3 Detailed Design Elements 55
 - 7.2 Contest Rules 59
 - 7.3 Budget 59
 - 7.4 Activities 60
 - 7.4.1 Sub-activities 61
 - 7.5 Running Example 61
 - 7.6 Guidelines 62
 - 7.7 Read More 62
 - References 63
- 8 Develop Contest Platform** 65
 - 8.1 A Website Is not Good Enough 66
 - 8.1.1 Developers’ Platform 66
 - 8.1.2 Contest Communication 67
 - 8.1.3 Coordination and Evaluation 68
 - 8.2 Activity Description 69
 - 8.2.1 Sub-activities 69
 - 8.3 Running Examples 70
 - 8.4 Read More 71
 - References 72
- 9 Motivate Developers** 73
 - 9.1 Motivating Different Types of Participants 75
 - 9.2 Activity Description 76
 - 9.2.1 Sub-activities 77
 - 9.3 Running Example 77
 - 9.4 Read More 77
 - References 78
- 10 Manage Contest Operations** 79
 - 10.1 Common Problems Encountered in Contest Operations 80
 - 10.2 Lack of Solution Relevance 80
 - 10.3 Lack of Innovation 80
 - 10.4 Lack of Team Performance 81
 - 10.5 Lack of Resources 82
 - 10.6 Inadequate Use of Available Resources 83
 - 10.7 Ineffective Communication 83
 - 10.8 Other Problems 84
 - 10.9 Activity Description 84
 - 10.9.1 Sub-activities 85

10.10	Guidelines.....	86
10.10.1	Guidelines.....	86
10.11	Running Examples.....	86
11	Evaluate Contest Contributions.....	89
11.1	The Organiser-Driven Evaluation Method.....	90
11.2	The Automated Evaluation Method.....	90
11.3	The Expert Jury Evaluation Method.....	91
11.4	The Peer-Review Evaluation Method.....	92
11.5	The Crowd-Sourcing Evaluation Method.....	92
11.6	The Mixed Method Evaluation Approach.....	93
11.7	Methods for Evaluating Contest Contributions Vis-à-Vis Contest Formats.....	94
11.8	“And the Winner Is...”: Communicating the Evaluation Outcome.....	95
11.9	Activity Description.....	96
11.9.1	Sub-activities.....	96
11.10	Running Examples.....	98
12	Develop Strategy.....	101
12.1	Strategies Related to Open Innovation.....	102
12.2	Activity Description.....	103
12.2.1	Sub-activities.....	103
12.3	Guideline.....	105
12.4	Running Examples.....	105
12.5	Read More.....	106
	References.....	107
13	Manage Innovation Barriers.....	109
13.1	Barrier Management.....	112
13.2	Activity Description.....	113
13.2.1	Sub-activities.....	113
13.3	Running Example.....	115
13.4	Read More.....	116
	References.....	116
14	Design Business Model.....	117
14.1	Open Data Resource Provider.....	118
14.2	Catalyst.....	119
14.3	Service Provider.....	120
14.4	Innovation Partner.....	120
14.5	Activity Description.....	121
14.5.1	Sub-activities.....	121
14.6	Guidelines.....	121

- 14.7 Running Examples 121
 - 14.7.1 Open Data Resource Provider—Example City of Stockholm 121
 - 14.7.2 Catalyst—Example Viktoria Swedish ICT 122
 - 14.7.3 Service Provider—Example Volvo Car Corporation 122
 - 14.7.4 Innovation Partner—Example HiQ 122
- References. 122
- 15 Monitor Contest 123**
 - 15.1 Method Description 124
 - 15.1.1 Phase 1: Design Measurement Model 125
 - 15.1.2 Phase 2: Refine Model in Use 125
 - 15.1.3 Phase 3: Learn and Communicate 126
 - 15.2 Running Example 127
 - 15.2.1 Goals 127
 - 15.2.2 Contest Process 127
 - 15.2.3 Measurement Model 128
 - 15.2.4 Planning Phase 129
 - 15.2.5 Ideas 130
 - 15.2.6 Service Design Phase 130
 - 15.2.7 Preparation Phase Running Example 131
 - 15.2.8 Implementation Phase Running Example 131
 - 15.2.9 Exploitation Phase Running Example 132
 - 15.3 Guidelines 133
 - 15.4 Further Reading 133
 - References. 133
- Appendix: Rules for the Open Digital Innovation Contest “Olympic City Transport Challenge” 135**
- Index 139**