

Table of content

Content overview	IX
Table of content	XI
Index of figures	XV
Index of tables	XVII
List of abbreviations	XXI
1 Introduction.....	1
1.1 Research problem.....	1
1.2 Research objectives and contribution	4
1.3 Outline of the thesis	5
2 Frame of reference.....	9
2.1 The concept of innovation.....	9
2.1.1 Innovation as an outcome	9
2.1.2 Innovation as a process	12
2.2 The front-end of innovation	16
2.3 The open innovation paradigm	21
2.4 Interim summary.....	23
3 Theoretical foundation.....	25
3.1 Relevant prior idea evaluation research	25
3.2 Idea evaluation as core activity in the FEI	26
3.2.1 Why is proficient idea evaluation important?	28
3.2.1.1 The need to identify exceptional new product ideas	30
3.2.1.2 The need to balance the innovation portfolio.....	31
3.2.2 How to measure the quality of new product ideas?	32
3.2.2.1 The consensual assessment technique (CAT).....	36
3.2.2.2 Criteria-based evaluations	38
3.2.2.3 Holistic evaluations.....	41
3.2.3 Who should evaluate early-stage new product ideas?	43
3.2.3.1 Idea evaluation by experts	43
3.2.3.2 Substituting experts with non-experts.....	45
3.2.3.3 Research comparing experts and non-experts evaluations	52
3.2.3.4 Interim summary	56
3.3 Literature synthesis.....	57
3.4 Research gap and research questions	58
3.5 The role of domain knowledge in evaluating new product ideas	61

3.5.1	Need knowledge and solution knowledge as constituents of domain knowledge	61
3.5.2	The structure of domain knowledge in schemas.....	62
3.5.3	Domain knowledge and new product idea evaluations.....	64
3.5.3.1	Schema-based evaluation	65
3.5.3.2	Inference making theory.....	67
3.5.3.3	The knowledge transfer paradigm.....	69
3.5.3.4	Interim summary.....	71
3.6	Research framework and hypotheses development.....	72
3.6.1	Research framework	72
3.6.2	The direct effects of domain knowledge.....	74
3.6.3	The interaction effects between domain knowledge and idea innovativeness.....	77
3.6.4	The mediating effect of comprehension	79
4	Research design	81
4.1	Research setting.....	81
4.2	Quantitative online survey.....	82
4.2.1	Layout and sequence of the online survey.....	83
4.2.2	Selection and manipulation of new product ideas.....	84
4.2.3	Operationalization of measures.....	90
4.2.3.1	Dependent variables.....	90
4.2.3.2	Independent variable	91
4.2.3.3	Moderating variable.....	93
4.2.3.4	Mediating variable.....	93
4.2.3.5	Control variables.....	94
4.2.4	Data collection and sample	95
4.2.4.1	Pre-test.....	95
4.2.4.2	Sources of recruitment	96
4.3	Data cleansing and preparation.....	100
4.3.1	Treatment of missing data and outliers	100
4.3.2	Reliability and validity evaluation of constructs	102
4.3.2.1	First generation methods	104
4.3.2.2	Second-generation methods.....	113
4.3.2.3	Summary of reliability and validity tests.....	117
4.3.3	Common method bias test.....	117
5	Empirical findings.....	119
5.1	Descriptive analysis.....	119

5.1.1	Sample analysis – demographics and professional experience.....	119
5.1.2	Sample analysis – domain knowledge	120
5.1.3	Evaluation outcomes analysis.....	127
5.1.4	Correlation analysis	133
5.1.5	Summary of descriptive analysis	136
5.2	Multiple regression analysis.....	137
5.2.1	Data set	137
5.2.2	Test of underlying assumptions.....	138
5.2.2.1	Normality	139
5.2.2.2	Homoscedasticity.....	143
5.2.2.3	Linearity	144
5.2.2.4	Independence of error terms.....	145
5.2.2.5	Multicollinearity.....	146
5.2.2.6	Unusual and influential data.....	147
5.2.2.7	Interim summary	149
5.2.3	Results.....	150
5.2.3.1	Testing for direct effects	156
5.2.3.2	Testing for moderation effects	156
5.2.3.3	Testing for mediation effects.....	165
5.2.3.4	Testing for moderated mediation.....	168
6	Discussion of findings and implications	177
6.1	Discussion.....	177
6.2	Theoretical implications	186
6.3	Managerial implications.....	189
6.4	Limitations and future research	191
7	References.....	193
8	Appendix.....	215
8.1	Appendix A – Core literature.....	215
8.2	Appendix B – Online survey	219
8.3	Appendix C – Additional mediation effects.....	234
8.4	Appendix D – Robustness checks	239
8.5	Appendix E – Idea rankings	244

The Crucial Role of Domain Knowledge in Evaluating
Early-Stage New Product Ideas

Denker, F.

2018, XXI, 249 p. 38 illus., Softcover

ISBN: 978-3-658-19783-4