Holger Materlik

Implementing Early Supplier Involvement

A Judgment and Decision Theory-based Investigation of Human Behavior

European Management Publications
# Table of Content

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table Of Content</td>
<td>III</td>
</tr>
<tr>
<td>List Of Figures</td>
<td>VIII</td>
</tr>
<tr>
<td>List Of Tables</td>
<td>IX</td>
</tr>
<tr>
<td>List Of Abbreviations</td>
<td>XI</td>
</tr>
<tr>
<td><strong>1 Introduction</strong></td>
<td>1</td>
</tr>
<tr>
<td>1.1 Motivation of Study</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Research Questions and Proceeding</td>
<td>2</td>
</tr>
<tr>
<td>1.3 Research Approach and Structure</td>
<td>6</td>
</tr>
<tr>
<td><strong>2 Early Supplier Involvement and Related Concepts</strong></td>
<td>11</td>
</tr>
<tr>
<td>2.1 New Product Development</td>
<td>11</td>
</tr>
<tr>
<td>2.1.1 Terms and Significance of NPD</td>
<td>12</td>
</tr>
<tr>
<td>2.1.2 Uncertainty in NPD</td>
<td>14</td>
</tr>
<tr>
<td>2.1.3 Success Factors of NPD</td>
<td>16</td>
</tr>
<tr>
<td>2.2 Supply Management</td>
<td>21</td>
</tr>
<tr>
<td>2.2.1 Definition and Related Terms of Supply Management</td>
<td>21</td>
</tr>
<tr>
<td>2.2.2 Supply Management Objectives and Tasks</td>
<td>22</td>
</tr>
<tr>
<td>2.2.3 Evolvement of Supply Management</td>
<td>26</td>
</tr>
<tr>
<td>2.2.4 Buyer-Supplier Relationships</td>
<td>27</td>
</tr>
<tr>
<td>2.3 Early Supplier Involvement</td>
<td>28</td>
</tr>
<tr>
<td>2.3.1 Setting the Scene of ESI</td>
<td>30</td>
</tr>
<tr>
<td>2.3.1.1 Definition of ESI and Related Terms</td>
<td>30</td>
</tr>
<tr>
<td>2.3.1.2 Models of ESI</td>
<td>34</td>
</tr>
<tr>
<td>2.3.2 Benefits of ESI</td>
<td>40</td>
</tr>
<tr>
<td>2.3.3 Challenges and Risks of ESI</td>
<td>45</td>
</tr>
<tr>
<td>2.3.4 Critical Factors for ESI</td>
<td>48</td>
</tr>
<tr>
<td>2.3.5 Synthesis of ESI Literature</td>
<td>52</td>
</tr>
</tbody>
</table>
# Table of Content

## 3 Theoretical Approaches For Early Supplier Involvement

### 3.1 Economic Theory

- 3.1.1 Expected Utility Models and Homo Economicus 58
- 3.1.2 Transaction Cost Theory 61
- 3.1.3 Principal Agent Theory 63

### 3.2 Psychology and Behavior

- 3.2.1 Adaptation of Homo Economicus 67
  - 3.2.1.1 Adapt Utility Function 69
  - 3.2.1.2 Introduce Biases 75
  - 3.2.1.3 Depart from Utility Maximization 82
  - 3.2.1.4 Take-Aways 85
- 3.2.2 Debiasing Theory 86
  - 3.2.2.1 Expand Bound of Rationality 87
  - 3.2.2.2 Reduce Dynamism of Environment 90
  - 3.2.2.3 Reduce Complexity of Environment 91

### 3.3 Integration of Behavior into Business and Economic settings

- 3.3.1 Behavioral Management Accounting and Controlling 94
- 3.3.2 Behavioral Finance 97
- 3.3.3 Behavioral Supply Management 99

## 4 Conceptual Explanation of Early Supplier Involvement

### 4.1 Explanatory Power of Economic Theory

- 4.1.1 Transaction Cost Analysis of ESI 103
  - 4.1.1.1 Transaction Cost Models of ESI 104
  - 4.1.1.2 Critique of Transaction Cost Analysis for ESI 108
  - 4.1.1.3 Explanatory Value of Transaction Cost Analysis in ESI 112
- 4.1.2 Principal-Agent Analysis of ESI challenges 114
  - 4.1.2.1 Principal-Agent Theory Models of ESI 115
  - 4.1.2.2 Critique of Principal-Agent Theory for ESI 124
  - 4.1.2.3 Explanatory Value of Principal-Agent Theory in ESI 125

### 4.2 Conceptual Integration of Behavioral Theory and ESI 129
## Table of Content V

4.2.1 Model for Integrating Behavioral Theory into ESI 130
   4.2.1.1 Adapt Utility Function in ESI 131
   4.2.1.2 Introduce Biases in ESI 135
   4.2.1.3 Depart from Utility Maximization in ESI 140

4.2.2 Critique of Behavioral Theory Application 142

4.2.3 Explanatory Value of Behavioral Model 144

5 Behavioral Effects in Early Supplier Involvement Implementation 153

5.1 Methodology 153
   5.1.1 Selection of Research Method 154
      5.1.1.1 Research Purpose 154
      5.1.1.2 Matching Research Purpose with Research Design 155
      5.1.1.3 Definition Case Study 158
      5.1.1.4 Discussion 159
   5.1.2 Instrument Development 160
      5.1.2.1 Unit of Analysis 160
      5.1.2.2 Expert Interviews and Pilot Case Studies 163
      5.1.2.3 Interview Guideline 164
      5.1.2.4 Case Selection 165
   5.1.3 Data Collection 168
   5.1.4 Data Analysis 169
   5.1.5 Research Quality 171
      5.1.5.1 Construct Validity 171
      5.1.5.2 Internal Validity 172
      5.1.5.3 External Validity 173
      5.1.5.4 Reliability 174

5.2 Empirical Findings for Behavioral Effects on ESI implementation 175
   5.2.1 Results of Analyzed ESI Projects 176
      5.2.1.1 General Case Characteristics 176
      5.2.1.2 Experienced Project Benefits 182
      5.2.1.3 Experienced Project Challenges and Risks 187
5.2.2 Behavioral Effects on Decision-Making in Analyzed ESI Projects
  
  5.2.2.1 Mistakes During ESI Project Development in Analyzed ESI Projects 190
  5.2.2.2 General Mistakes of Evaluation in Analyzed ESI Projects 195
  5.2.2.3 Mistakes due to Past ESI Experience in Analyzed ESI Projects 198
  5.2.2.4 Mistakes due to Inter-personal Relationship in Analyzed ESI Projects 202

5.2.3 Summarizing Empirical Results on Research Question 2 205

6 Moderating Effects of Behavior 209

6.1 Environmental Factors Influencing Behavior in ESI projects 209
  
  6.1.1 Industry Specifics 210
  6.1.2 Supply Market Specifics 217
  6.1.3 The Relevance of Dyadic Perspectives in the Environment 221
  6.1.4 Overview of Environmental Factors Influencing Behavior 229

6.2 Counter Measures
  
  6.2.1 Measures Influencing Environmental Factors 230
  6.2.2 Measures Influencing Behavioral Effects in ESI 239
    6.2.2.1 Improving ESI Implementation by Creating Awareness 239
    6.2.2.2 Improving ESI Implementation by Decomposing Decision Tasks 242
    6.2.2.3 Improving ESI Implementation by Taking an Outside Perspective 243

7 Conclusion 249

  7.1 Summary of Findings 249
  7.2 Implications for Practitioners 261
  7.3 Future Research Agenda 265
<table>
<thead>
<tr>
<th>Table of Content</th>
<th>VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>271</td>
</tr>
<tr>
<td>Appendix</td>
<td>305</td>
</tr>
<tr>
<td>About the Author</td>
<td>313</td>
</tr>
</tbody>
</table>