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Wirth, Jutta ISPIM Innovation Conference



Escaping The Company Bubble To Innovate: A Cross Innovation Model

In this research, we described how cross innovation can systematically be integrated into small and medium-sized enterprises (SME's). Based on a profound literature research specified on cross innovation and innovation management in more general (processes and management activities), we developed a model for Cross Innovation which allows us to put forward conceptualizations and directions for organizations. Our definition describes the process of knowledge transfer between organizations of different industries into a new environment where it is modified and adapted or recombined, in order to save R&D costs, add new value, open new markets, and satisfy customer needs. We classify cross innovation as a specific type of open innovation and illustrate the interplay between key components, define stages and corresponding inputs, outputs and assign methods to these stages. Our new developed 'Lifecycle Model for Cross Innovation' forms the basis for a new merging innovation management framework.

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Escaping the Company Bubble to Innovate: A Cross Innovation Model

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Abstract: In this research, we described how cross innovation can systematically be integrated into small and medium-sized enterprises (SME's). Based on a profound literature research specified on cross innovation and innovation management in more general (processes and management activities), we developed a model for cross innovation which allows us to put forward conceptualizations and directions for organizations.

Our definition describes the process of knowledge transfer between organizations of different industries into a new environment where it is modified and adapted or recombined, in order to save R&D costs, add new value, open new markets, and satisfy customer needs. We classify cross innovation as a specific type of open innovation and illustrate the interplay between key components, define stages and corresponding inputs, outputs and assign methods to these stages. As a result we developed a Lifecycle Model for cross innovation` which forms the basis for a new merging innovation management framework.

Keywords: Cross innovation; cross-industry innovation (CII); innovation management; design thinking; open innovation; Life cycle model; process model; guideline for practitioners; SME's; cross-innovation processes; cross innovation model for Small Medium sized Enterprises.

1. Introduction on how to foster innovation

Nowadays organizations operate in highly competitive contexts. Especially small companies, which represent a large part of the German economy, are challenged with a need for constant innovation to maintain their competitive position in a rapidly changing market. Recent studies have shown that innovations emerge the most when partners from different fields interact (Weber and Heidenreich, 2016). Particularly such interactions beyond industry boundaries, in which innovation is transferred from one industry to another industry, is referred to as cross-industry innovation (CII) (Dingler and Enkel, 2016; Enkel and Gassmann, 2010). Already existing solutions from other industries are creatively integrated and adapted to solve the needs of a company's current market or products or even open up new fields. Therefore, innovation through cross innovation is of high potential and a useful solution for Small Medium sized Enterprises (SMEs).

2. Current understanding

Research on cross innovation to date has focused mainly on the outcome of collaboration across industry boundaries (Dingler and Enkel, 2016). Others examined cross industry cases, giving insights on product outcomes of cross industry approaches (Enkel and Gassmann, 2010). Behne et al. (2021) focussed on the framework designed such that potential technologies can be transferred from one industry to another. Interestingly, German-language publications were used as a main source to establish this framework for CII (Behne et al., 2021). Moreover, few insights are available about the early - or complete phases and processes, which are needed to integrate CII in businesses for innovation management (Brunswicker and Hutschek, 2010). Specifically, the methods and tools that can be used for integrating CII into businesses are mentioned as a serious deficit (Behne et al.; 2021).

3. Research question

Within the literature on management of cross innovation, the integration of CII into businesses and its holistic processes is complex for both, companies and academics. In particular, we have discovered that the publications on CII range from a theoretical focus to a more practical application (Kerl and Moehrle, 2015) without a mutually integration. Previous studies on CII came up with various definitions or processes of CII (Ciliberti et al., 2016; Hauge et al., 2017; Lyng and Brun, 2020). However, these studies focussed on one industry only (Brunswicker and Hutschek, 2010), which makes it difficult to generalize the insights. Here we address this complex issue and ask how can we establish a holistic process model to cross-innovation in terms of innovation management and offer relevant practical methods and tool sets for CII implementation.

4. Research design

To define and generalize the framework conditions for this holistic process model to CII we conducted three research steps: (1) we performed a profound literature search for a clear definition for CII, selecting English-speaking literature of research or management journals. (2) Based on this, we established a 'life cycle model', which meets the fundamental requirements for CII approaches among firms (Table 1). The cross innovation (XI)-life cycle model includes all phases and systematic processes that are necessary between industry partners, interest groups and companies to apply a cross innovation project in practice (Figure 1); (3) we extended the XI-life cycle model through additional practical methods and tools to support SME's in the implementation of CII. Altogether 34 workshop formats were established for different phases in the model. Our model for cross innovation and our practical tools fill the gaps of previous cross industry models.

Table 1 Literature research for the lifecycle model of cross innovation illustrating stages, targets, inputs and outputs.

Stage	0 Community Building & Market Screening	1 Actor- Commitment	2 Actor-Target Match	3 Context & Problem	4 Discovery	5 Explore & Define	6 Evaluate & Validate	7 Develop & Test	8 Deliver & Listen
Target	Ongoing exchange	Ongoing exchange	Find a common topic	Market analysis	Focus on ideas	Show feasibility, prototypes	Concept to verify acceptance	Implement idea	Action, benefits
Input	Motivation, creating opportunities	Networking, exchange	Know about competence/interest of others	Research, field tests	Identify problem and formulate it	Generate and evaluate ideas	Preliminary design, proof of feasibility	User requirements are met	Adaptation for use in own company
Output	Networking, exchange	Know about competences/interest of others	Find and pursue a common topic	Identify problem and formulate it	Generate and evaluate ideas	Preliminary design, proof of feasibility	User requirements are met	Adaptation for use in own company	Final implementation

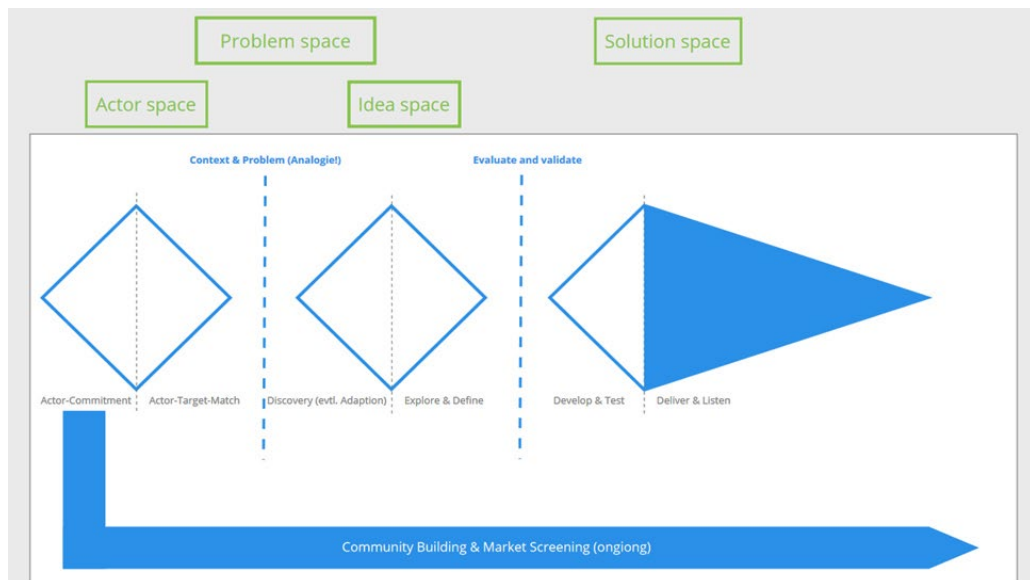


Figure 1 Lifecycle model of cross innovation (XI-life cycle model)

5. Research findings and main outcomes

Our XI-life cycle model for cross innovation is defined in eight stages as follows: Actor-Commitment, Actor-Target Match, Context & Problem, Discovery (adaption), Explore & Define, Evaluate & Validate, Develop & Test, and Deliver & Listen. Additionally, our model contains the stage zero for Community Building & Market Screening as an ongoing process through all stages. The stages are characterized by defined targets, input and outputs. A more appropriate presentation of the entire stages and processes was adapted to a Triple Diamond Model, which represents a well-structured model (Marin-Garcia et al., 2020).

6. Contribution and practical implications

Our XI-life cycle model fills the gaps of previous cross industry models in two ways. First, it is a generalized model, which enables firms to adapt their strategy and business models while helping to propose future research objectives and directions. Second, we have developed various workshop formats and integrated them into the different stages of the model.

7. Practical implications

Herewith we offer an adequate tool set for cross innovation implementation, which allows businesses to select and try various innovation methods to each stage of cross innovation processes. This gives practitioners a tool at hand to find and select appropriate means of performance and to enhance the toolset in the

future by themselves. With the developed reference model, organizations and specifically SME's are able to establish new ways of performing cross innovation.

8. Participation Mode: In person

9. Feedback:

Understanding modern Innovation management, finding similarities and differences between cross industry innovation and open innovation in SME's.

10. References

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1330 to 1430	ACADEMIC RESEARCH & INDUSTRY CASES						TALKS, PANELS & WORKSHOPS		
	Room: Norway & Online	Room: Reykjavik & Online	Room: Helsinki-Oslo & Online	Room: Finland	Room: Sweden	Room: Stockholm	Room: Copenhagen	Room: Iceland	Room: Denmark
	<p>3.01 Collaboration (Hybrid) (Research-in-Progress)</p> <p>Facilitator: Tatiana Iakovleva</p> <p>Judy Hong Huang: Exploring methods for user involvement in living labs</p> <p>Petteri Repo: Seeking Novelty through Network Analysis of Digital Consumer Creativity</p> <p>Gavin Leonard: Facilitating the university-industry technology commercialisation process in MedTech (virtual)</p> <p>Mona Meyer: University-Industry Collaboration for Design/Branding Innovation in Low-Capacity Swiss SMEs</p>	<p>3.02 Innovation Leadership & Culture 1 (Hybrid)</p> <p>Facilitator: Dorothy Kirkman</p> <p>Katharina Duehr: Improving distributed collaboration for the development of advanced systems</p> <p>Steve Wilson: Innovation Leadership: Sensemaking and Transformation in an Age of Uncertainty</p> <p>Janne Heilala: Deployment of Competitive Techno-Organizational Global Supply Chain Management (virtual)</p> <p>Jessica Fogelberg: Hackaton Theme and Contest/Selection Criteria as Multi-Faceted Leadership Tools (virtual)</p> 	<p>3.03 Digital Disruption, Transformation & Platforms 1 (Hybrid)</p> <p>Facilitator: Stoyan Tanev</p> <p>Leonie Müller: Exploring the Paradox of Agility</p> <p>Giulia Palombi: Exploiting digitalization for organizational resilience</p> <p>Melina Schleef: Smart Products as Silent Witnesses: Privacy Concerns versus Legal Advantage (virtual)</p> <p>Leila Saari: Building the maturity model for sustainable collaborative manufacturing industry (virtual)</p> 	<p>3.04 Teaching & Coaching 1</p> <p>Facilitator: Rob Sheffield</p> <p>Michaela Fox, Stephane Durand: EIT Food Seedbed Incubator Programme</p> <p>Bengt Köping Olsson: Covarying effects of Creativity Studies on Performance in Innovation Processes.</p> <p>Tobias Wilken: Innovation in deadlocked industrial structures</p> <p>Antonios D. Livieratos: Fostering 'Divergent Thinking' with Case Writing</p> 	<p>3.05 Opportunities & Performance (Research-in-Progress)</p> <p>Facilitator: Sveinung Grimsby</p> <p>Jutta Wirth: Escaping The Company Bubble To Innovate: A Cross Innovation Model</p> <p>Simon Ohlert: How do academic entrepreneurs recognize opportunities in converging industries?</p> <p>Luca Doerr: Influencing factors of digital transformation in SMEs: a literature review</p> <p>Bibiana Volkmer Martins: How social media and dynamic capabilities impact innovation performance?</p>	<p>3.06 Entrepreneurship & Innovation 1</p> <p>Facilitator: Frans Stel</p> <p>Iivari Kunttu: Developing Data Analytics Capabilities for Circular Economy SMEs</p> <p>Saki Otomo: Classification of Born-Global Firms: The Case of Japanese High-tech Startups</p> <p>Valentina Grillea: AI Ventures to the International Market (US and UAE)</p> <p>Henning Jakobsen, Frank Gertsen: Competence-based entrepreneurship based on blending innovation theory</p>	<p>3.07 Values-based & Sustainability 1</p> <p>Facilitator: Kiril Ivanov</p> <p>Erik Lindhult: Systemic Innovation and Industry Transformation</p> <p>Maria Antikainen: Anatomy of successful sustainable business models</p> <p>Ana Vanacker: Analyzing the Evolution of Technological Innovation Systems</p> <p>Jolita Ceicyte-Pranskune: Enabling Values-based Strategic Innovation via Stakeholder Involvement in SMEs</p> 	<p>3.08: Changing the dynamics and impact of innovation management Part 2: Panel</p> <p>Led by Joanne Hyland, Ingrid Kihlander & Magnus Karlsson</p> <p>More details</p> 	<p>3.09 Bridging Open Innovation & Living Labs: Opportunities for collaboration between ISPIM SIGs & ENoLL Communities</p> <p>Led by Koen Vervoort</p> <p>More details</p> 