Getting the right recipe: optimal collaboration strategies for radical and incremental service innovators

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Motivation

- **External collaboration has become a popular route to innovation, especially for service firms where customer co-creation is common**

- **External collaboration can occur at different stages of innovation**

- **A practical question many firms face is when to be open and when to be closed.**

- **We investigate possible complementarities in collaboration at the idea generation and commercialization stages of innovation- is there an optimal recipe?**

Introduction

- **Why do firms collaborate?**

  - ➢ **External collaboration for innovation has several potential benefits, especially for SMEs-combining resources, sharing risks, quicker time to markets.**

- **But collaboration can also be costly and risky, and its benefit reduces with the number of partners in ideation**

- **We argue that what matters is not only the number of partners, but also the phase of innovation in which the firm collaborates**

Research questions

- We consider the following research questions:

- ➢ Are there optimal combinations of collaboration patterns across stages?

- ➢ Are there differences in optimal collaboration patterns for radical and incremental innovators
    - Radical innovators
        - Disruptive, completely new to the market innovation
    - Incremental innovators
        - New to the firm innovations, improvements on existing products and services
- ➢ Does the size of the firm matter?

Data and Methods

- We use the 2016 Organizational Practices in Professional Services (OPIPS) survey

- The survey covers 639 innovating firms in five service sectors: Accountancy, Architecture, Consultancy, Software and IT and Specialist Design

- Dependent variable : % of turnover accounted for by innovative sales

- Data on the incidence and breadth of collaboration at the ideation and commercialization stages

- Main independent variables: six mutually exclusive combinations of partnerships in ideation and commercialization, based on median levels of collaboration

Data and Methods

Categorization of firms based on their collaboration strategies in ideation and commercialization.

Collaboration strategy in ideation- Number of partners	Collaboration strategy in commercialization	Our terminology for resulting strategy	Proportion of firms adopting the resulting strategy
1. 0	Closed	None-C	18.5%
2. 0	Open	None-O	8.8%
3. 1-2	Closed	Few-C	13%
4. 1-2	Open	Few-O	6.6%
5. 3+	Closed	Many-C	25.8%
6. 3+	Open	Many-O	27.4%

Results

OLS estimates of the response of innovation performance to combinations of external collaboration in ideation and commercialisation

% of innovative sales	Radical Innovators	Incremental Innovators
None-O	-5.738	11.286
	[12.253]	[8.288]
None-C	12.948	0.158
	[9.139]	[6.733]
Few-O	9.779	13.736**
	[10.833]	[5.391]
Few-C	24.422**	10.558**
	[10.941]	[5.125]
Many-O	4.428	11.093**
	[8.196]	[5.048]
R2	0.28	0.26
N	186	280

Radical Innovators: Size effects in the response of innovation performance to combinations of external collaboration in ideation and commercialisation.

	None-O	None-C	Few-O	Few-C	Many-O
None-O-Small	-10.516 [15.126]				
None-O-Medium	5.171 [9.167]				
None-O-Large	18.720 [12.598]				
None-C-Small		12.245 [10.494]			
None-C-Medium		10.487 [11.285]			
None-C-Large		29.825* [17.314]			
Few-O-Small			9.502 [14.805]		
Few-O-Medium			-1.113 [14.771]		
Few-O-Large			19.215 [16.522]		
Few-C-Small				25.222** [12.268]	
Few-C-Medium				14.655 [17.105]	
Few-C-Large				22.172 [15.762]	
Many-O-Small					6.735 [9.647]
Many-O-Medium					-3.966 [6.755]
Many-O-Large					-0.480 [9.474]

Incremental Innovators: Size effects in the response of innovation performance to combinations of external collaboration in ideation and commercialisation.

	None-O	None-C	Few-O	Few-C	Many-O
None-O-Small	15.339 [10.409]				
None-O-Medium	-5.851 [5.347]				
None-O-Large	3.962 [9.599]				
None-C-Small		0.027 [7.985]			
None-C-Medium		3.106 [5.873]			
None-C-Large		-7.947 [8.474]			
Few-O-Small			15.259** [6.002]		
Few-O-Medium			6.535 [7.988]		
Few-O-Large			-0.727 [7.899]		
Few-C-Small				11.769** [5.415]	
Few-C-Medium				-8.148 [5.671]	
Few-C-Large				16.971* [9.534]	
Many-O-Small					10.949* [5.967]
Many-O-Medium					15.355** [7.772]
Many-O-Large					4.527 [6.308]

Main findings and conclusions

- **The benefits of external collaboration at one stage of the innovation process depends on collaboration at other stages.**
- **The optimal recipe differs for radical and incremental innovators. There are many ways to organise external collaboration for incremental innovators, but only one way for radical innovators**
- **Complementarities exist for incremental innovators, but not radical**
- **We need to re-think the premise of open innovation as a general prescription, and consider the conditions under which it is beneficial**