

Measuring the Impact of Innovation Intermediaries: An Assessment of the impact of UCLA's Global Access Program

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Innovation Intermediaries



- **R&D performers and enablers**
 - **Research institutes, consortia, networks**
- **Technology transfer and commercialization entities**
 - **Often associated with universities or research institutes**
- **Property-based innovation enablers**
 - **Science parks, technology development zones, business incubators**
- **Economic development organizations**
- **Industry associations, standards organizations**
- **Business financing and support programs**
 - **Often government based**

“An organization or body that acts as an agent or broker in any aspect of the innovation process between two or more parties” (Howells, 2006).

“Organizations or groups within organizations that work to enable innovation, either directly by enabling the innovativeness of one or more firms, or indirectly by enhancing the innovative capacity of regions, nations, or sectors” (Dalziel, 2010).



Why Measure the Performance of Innovation Intermediaries?

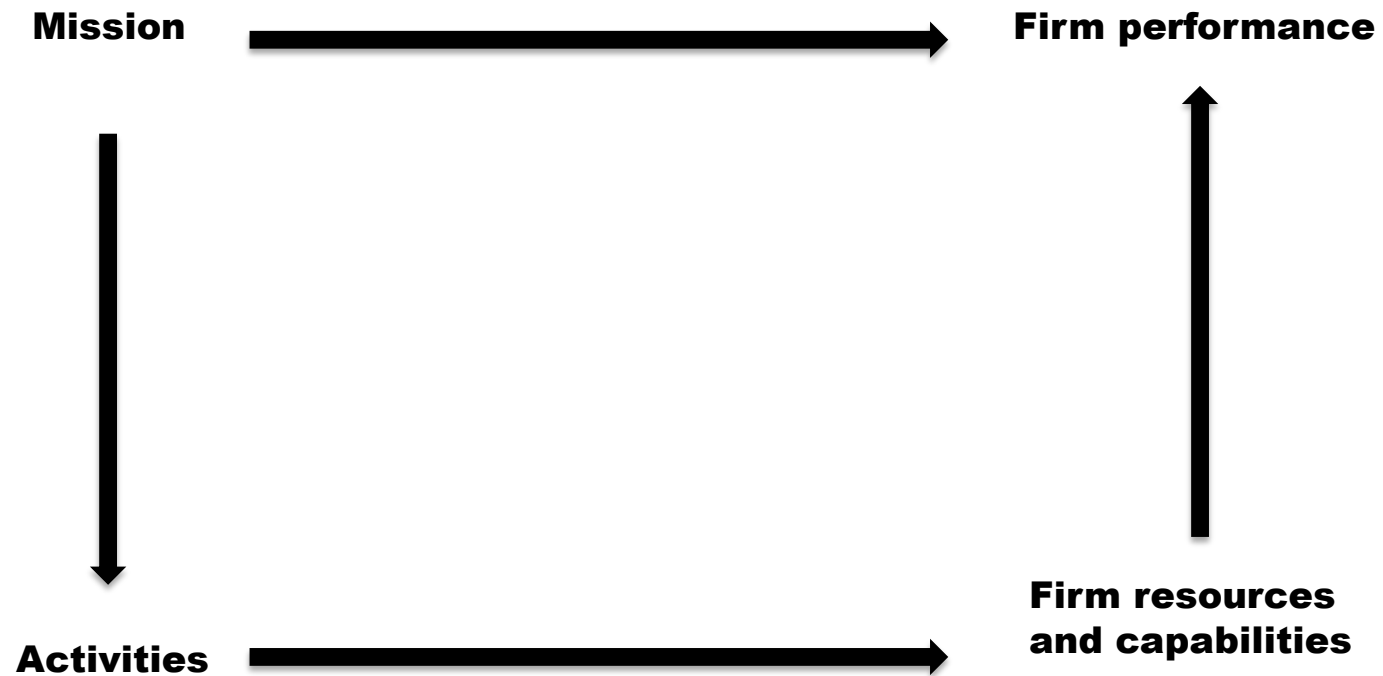
- **Academic interests:**
 - **To generate and test theories of organizational performance on an important class of organizations**
 - **E.g. How do organizational resources and capabilities relate to performance?**
 - **For more complete understandings of the actors and linkages of National Systems of Innovation**
- **Practical interests:**
 - **To motivate organizational learning and performance**
 - **To engender organizational legitimacy**
 - **Innovation intermediaries lack the legitimacy of firms or universities in part because they have difficulty providing evidence of their contributions**
 - **To create a market for resources**
 - **At present the allocation of resources is based on social or political considerations**



How Innovation Intermediaries Impact Firms

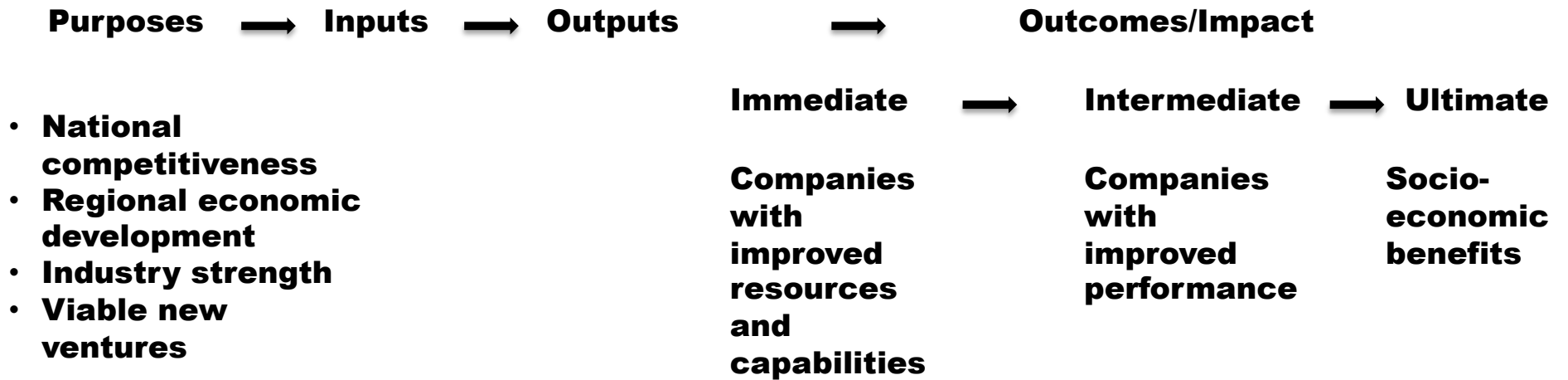
Intermediary

Client or Member Firm





Innovation Intermediary Logic Model





Literature – Immediate Impact

Study	Intermediaries	Immediate Impact	Methodology
Human & Provan, 1997	US strategic manufacturing networks	9 transactional outcomes and 16 transformational outcomes	Comparison of two networks, explain mechanisms leading to differentials in outcomes
McEvily & Zaheer, 1999	US regional institutes	Improved pollution prevention and quality management capabilities associated with engagement with regional institutes	Survey of 227 job shop manufacturers in US Midwest, both regional institute members and nonmembers. Structural equation modeling comparing participants and non-participants.



Literature – Intermediate Impact

Study	Intermediaries	Intermediate Impact	Methodology
King & Lennox, 2000	Responsible care program of Chemical Manufacturers Association	Reduced improvement of environmental performance	1987-1996 data on toxic emissions of over 200 chemicals of 1500 firms including 160 participants. Regressions explain 2%-6% of variance in improvements.
Lofsten & Lindelof, 2002	Swedish science parks	Growth in firm revenues, number of employees, but not profits	1996-1998 data comparing 134 science park firms to 139 off-park firms
Feldman & Kelly, 2006	US Advanced Technology Program	Award winners more likely to raise additional funds post-award	Comparison of 118 award winners and 122 non-winners.



Literature – Immediate and Intermediate Impact

Study	Intermediary and Methodology	Immediate Impact	Intermediate Impact
Sakakibara & Branstetter, 2003	US Advanced Technology Program <i>1985-1995 data on 249 US firms, 65 have participated in at least one ATP consortium (project)</i>	Stimulated creative thinking, saved R&D costs and time	Increased patenting and increased patenting in related classes
Grindley, Mowery & Silverman, 1994	SEMATECH <i>Case study</i>	Improvements in semiconductor manufacturing equipment, improved communications between member firms and suppliers	Industry performance compared to global competition improved, although unlikely to be a consequence SEMATECH



Lessons from the literature

- **Innovation intermediaries are generally found to have an impact**
 - **The impact is not always positive**
- **The nature of impact varies by intermediary type, firm characteristics, and the specifics of engagement, so multiple dimensions of impact need to be considered**
 - **The measurement of immediate impact on firms requires primary data**
 - **Secondary data can be used to demonstrate the presence or absence of impact, given multiple years of data, control groups, and methods to distinguish selection from treatment effects**
- **The more susceptible the impact to other influences, the more important it is to control for other influences to attribute the impact to intermediary activities**
 - **Broader, longer term impacts are the consequence of many factors**



The Evidence Network Logic Model for Innovation Intermediaries

Purposes	Inputs	Outputs	Impacts		
			Immediate Impacts	Intermediate Impacts	Ultimate Impacts
			Firms with increased resources or capabilities	Firms with improved performance	Socio-economic benefits
<ul style="list-style-type: none"> • National competitiveness • Community, regional economic development • Industry strength • Viable new ventures 	<ul style="list-style-type: none"> • Knowledgeable people • Relationships • Equipment, facilities • Funding 	<ul style="list-style-type: none"> • Business, scientific and technological knowledge, relationships, equipment, facilities • Design, testing, prototyping, intellectual property management, licensing services • Plans, proposals, projects • Events, conferences, seminars, meetings • Websites, blogs, reports, directories, newsletters • Access to financing 	<ul style="list-style-type: none"> • Information, advice • Opportunities for promotion, influence • Business linkages • Research linkages • Technology services • Access to financing • Complementary business inputs 	<ul style="list-style-type: none"> • Increased revenues • Increased employment • New products, services • Faster time to market • Increased market share • Reduced environmental impact • Increased valuation • Increased investment 	<ul style="list-style-type: none"> • Sustainable wealth and jobs • Environmental and health care improvements • Increased community, regional, national, economic and social wellness



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The Global Access Program (GAP) at the UCLA Anderson School of Management



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GAP pairs foreign companies with teams of fully-employed MBA students, providing the companies with strategic business advice, particularly concerning operating in and selling to international markets, and the students with an opportunity for experiential learning and for developing global strategies





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Logic Model for UCLA's GAP Program

Purposes	Inputs	Outputs	Impacts		
			Immediate Impacts	Intermediate Impacts	Ultimate Impacts
			Firms with increased resources or capabilities	Firms with improved performance	Socio-economic benefits
		<ul style="list-style-type: none"> • Primary research (100+ interviews) • Interpretation and analysis of research findings • Executive education • Business and consultancy contacts 	<ul style="list-style-type: none"> • Informative and advice: <ul style="list-style-type: none"> - Strategic - Feedback on products, services - On selling in new markets - On operating in new markets - On raising capital • Business linkages <ul style="list-style-type: none"> - With service providers • Complementary business inputs <ul style="list-style-type: none"> - Business planning services - Executive education services 	<ul style="list-style-type: none"> • Increased revenues <ul style="list-style-type: none"> - Change in revenues - Export sales • Increased employment <ul style="list-style-type: none"> - Change in employment • Increased market share <ul style="list-style-type: none"> - New international customers • Increased investment <ul style="list-style-type: none"> - Financing 	



Sample



- **60 Finnish firms have participated in the GAP program between 2004 and 2009**
- **53 firms asked to respond to survey, remainder had closed, been acquired, or changed executives**
- **Web-based survey**
- **Two reminder emails, telephone calls or personal emails to non-respondents**
- **33 responses, 62% response rate**



Impact on Company Resources and Capabilities

Strategic information or advice

To what degree did strategic information or advice provided by GAP impact your company?

Examples of strategic information or advice include information or advice related to the adoption or abandonment of corporate strategies such as those related to expansion, diversification, consolidation, or outsourcing, or the alignment of strategy and operations.

Please choose one of the following responses:

- **Very significant impact, the strategic information or advice had a very significant impact on our company**
- **Significant impact, the strategic information or advice had a significant impact on our company**
- **Some impact, the strategic information or advice had some impact on our company**
- **No impact, the strategic information or advice had no impact on our company**
- **Negative impact, the strategic information or advice had a negative impact on our company**



Impact on Company Performance

Employment

To what degree has employment at your company changed since its participation in GAP?

Please choose one of the following responses:

- **Increased by more than 100%**
- **Increased between 25% and 99%**
- **Increased by up to 24%**
- **No change in number of employees**
- **Decreased employment**

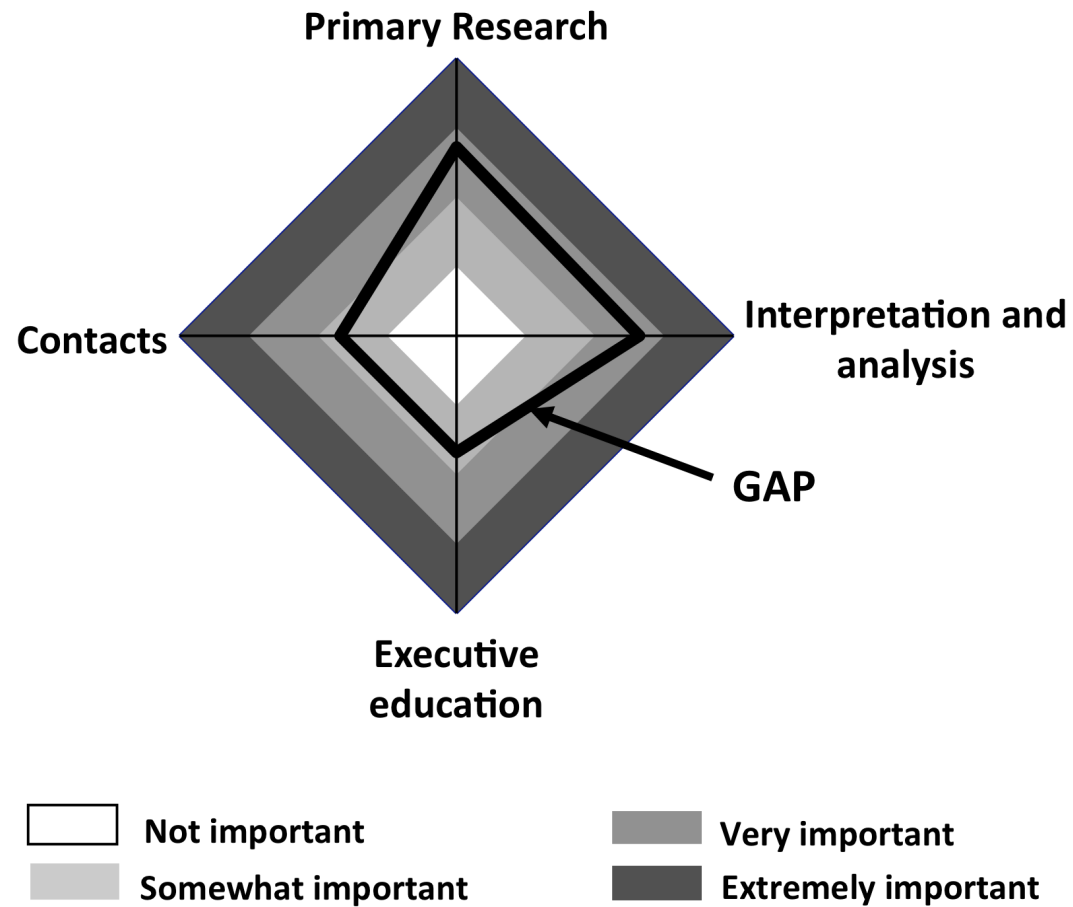
To what degree did GAP impact your company's change in employment since its participation in GAP?

Please choose one of the following responses:

- **Very significant impact, without GAP employment would have increased much less or decreased much more**
- **Significant impact, without GAP employment would have increased somewhat less or decreased somewhat more**
- **Some impact, without GAP employment would have increased marginally less or decreased marginally more**
- **No impact, GAP had no impact on our employment**
- **Negative impact, GAP made it harder for our company to hire employees**

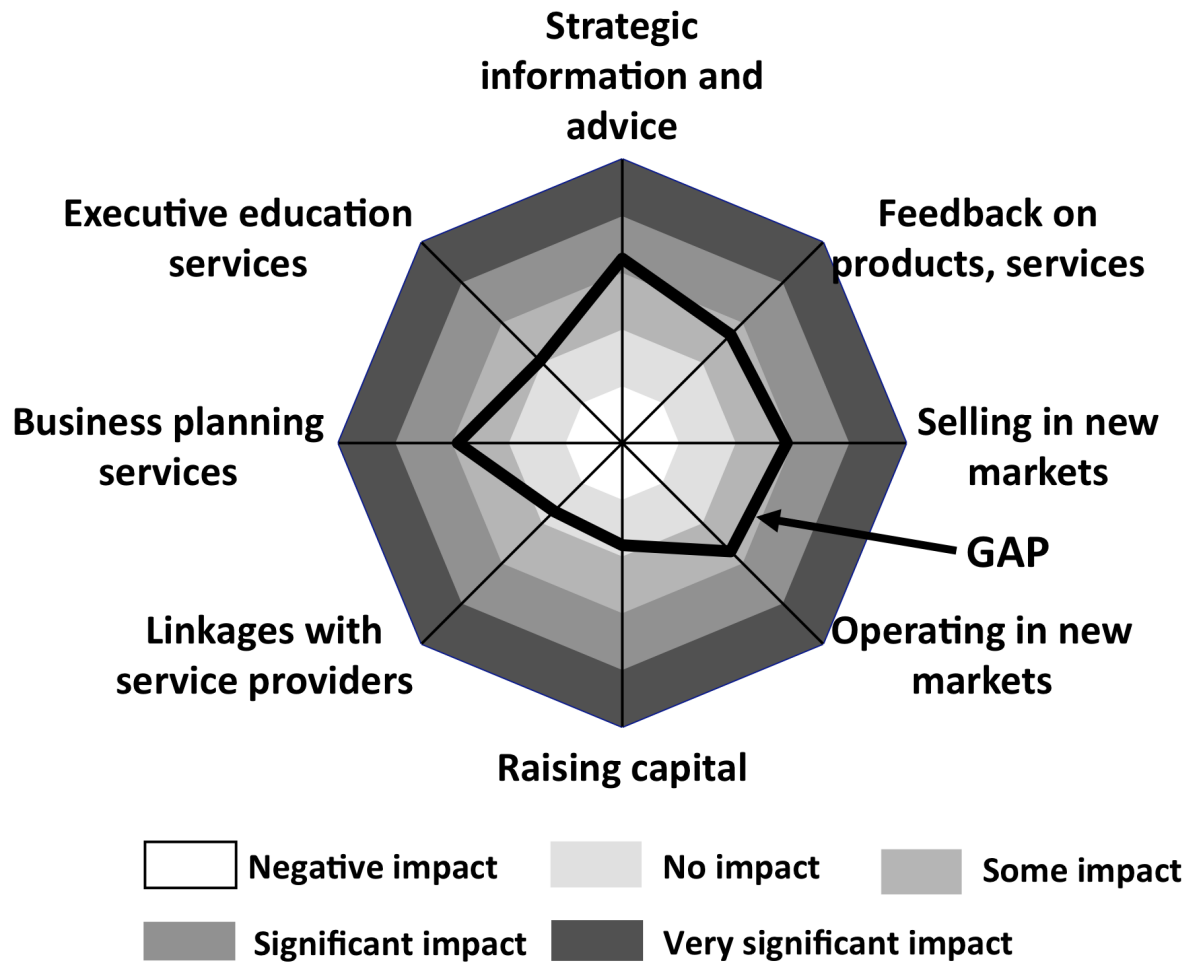


Average Importance of GAP Offerings



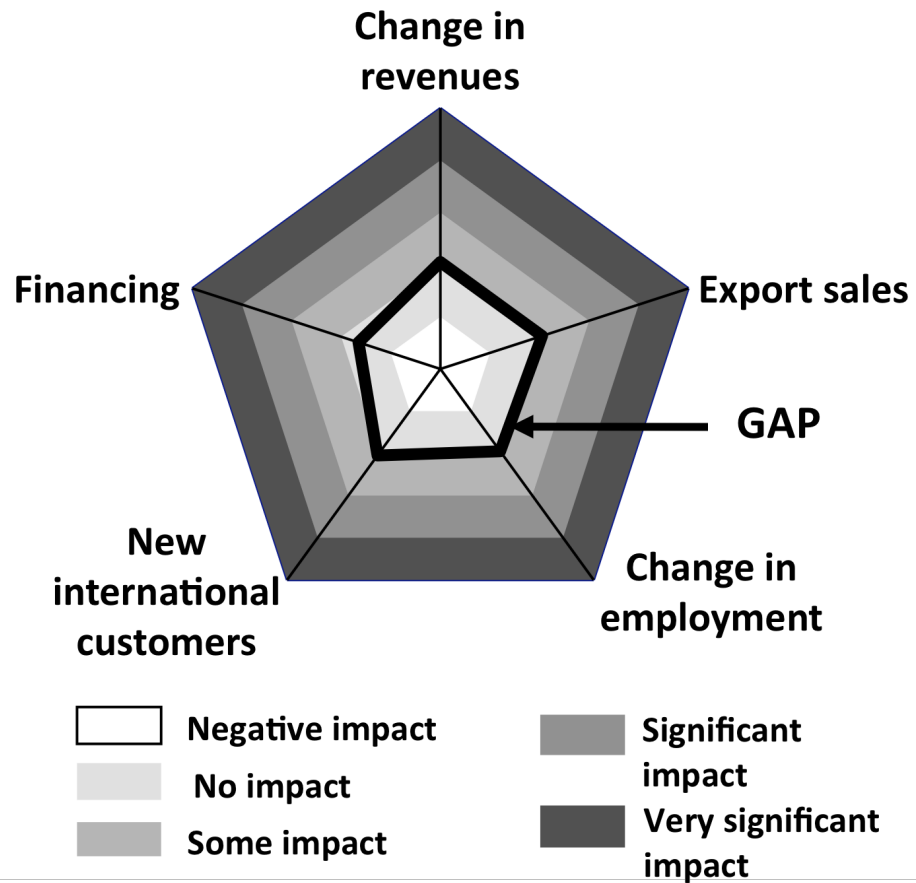


GAP Average Immediate Impact





GAP Average Intermediate Impact





Data Reduction



Type of measures	Measures	Factors
Importance of offerings	Primary research Interpretation and analysis	Custom offerings (Cronbach's Alpha = .85)
	Executive education Business and consultancy contacts	General offerings (Cronbach's Alpha = .89)
Immediate impact	Strategic information advice Feedback products services Business planning services	Strategic information and advice (Cronbach's Alpha = .90)
	Selling new markets Operating new markets	New markets (Cronbach's Alpha = .81)
	Raising capital Service provider linkages Executive education	General assistance (Cronbach's Alpha = .81)
Intermediate impact	Change in revenues Change in employment New international customers Export sales Financing	Intermediate impact (Cronbach's Alpha = .93)



Predicting Intermediate Impact



	Model 1 Control variables	Model 2 Program offerings	Model 3 Immediate impact
Constant	- .99 (.72)	- .97 (.75)	- .80 (.54)
Age	.01 (.03)	.01 (.03)	- .00 (.02)
Size	.03 (.04)	.01 (.04)	.01 (.03)
IT industry	-.22 (.41)	-.28 (.45)	.07 (.36)
Health industry	.05 (.57)	-.38 (.62)	-.35 (.43)
Growth	.05* (.02)	.06* (.02)	.05* (.02)
Custom offerings		.32 (.18)	
General offerings		.34 (.18)	
Immediate impact: Strategic information and advice			.43** (.13)
Immediate impact: New markets			.53** (.15)
Immediate impact: General assistance			.02 (.15)
Model characteristics			
n	32	29	32
F	1.44 (5 dof)	2.21 (7 dof)	4.65** (8 dof)
Adjusted R ²	.07	.23	.48

Standard errors in parentheses, dof = Degrees of freedom, * = p < .05, ** = p < .01



Strengths & Weaknesses

- **Strengths**

- **Multidimensional assessment of impacts**
- **Measures immediate impacts to provide timely feedback to facilitate improvements to intermediary interventions**
- **Measures intermediate impacts to identify changes in firm performance that are of interest to external stakeholders**
- **Generalizable across intermediary types**
- **Customizable to ensure respondent firms see themselves in the questions**
- **Distinguishes between selection and treatment effects**

- **Weaknesses**

- **Attribution is based on respondent judgment**
- **Limited to assessing the impact on firms, but could be expanded to consider impact on other targets such as hospitals, researchers, students, etc.**
- **Remains to be seen if the approach is sensitive enough to pick up the effects of changes in interventions**



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Kiitos!