

Dynamic capabilities in young entrepreneurial ventures: Evidence from Europe



Aimilia Protopogerou and Yannis Caloghirou

Laboratory of Industrial and Energy Economics
National Technical University of Athens



Abstract

The concept of dynamic capabilities (DCs) and their role in firm strategy, value creation and competitive advantage have attracted a great deal of interest among scholars. The relevant literature has mainly focused on established companies while limited attention has been given to young firms. This paper empirically investigates the link between dynamic capabilities and various performance measures using a rich survey dataset. In doing so, it examines the efficacy of DCs a) in young firms and b) in different industrial settings. Our findings suggest that, in general, dynamic capabilities have a positive relationship with new firms' growth, international sales, and innovative performance and that they can be of value in both high-tech and low-tech sectors.

Context

- Despite intense research efforts there is still no general agreement among scholars on the DCs constructs and boundary conditions among scholars.
- Few studies have explored which types of firms are more likely to benefit from DCs, with little attention to young firms because established companies are assumed to ensure an adequate organizational structure and the required resources to develop and exercise DCs.
- There is significant variation in the literature regarding external business environments relevant for DCs, i.e. there is no consensus on the role and usefulness of DCs in environments of varying degrees of dynamism (Zahra et al., 2006; Barreto, 2010).

The empirical work unfolds in three stages:

- We developed a set of DCs constructs that can be of value to young firms.
- We empirically assessed the applicability of the aforementioned DCs in a large sample of young firms by examining their impact on diverse performance indicators
- We examined the relationship between DCs and various performance measures in different industrial contexts by splitting our sample in two distinct sectoral groups i.e. high-tech vs. low-tech young companies.

The dataset

- Telephone interview with one of the firm founders in 10 European countries (2011)
- Sample firms**
- 2,219 young independent entities founded between 2001 and 2007 with an average age of 7 years (they have managed to exceed the critical 3-year survival threshold)
 - 64% are micro firms i.e. they employ up to 9 people, while 96.4% can be qualified as small firms (<50 people)

Sectoral group distribution

Sectoral groups	# of firms	% of firms
High-tech manufacturing	87	3.9
Medium-high-tech manufacturing	331	14.9
High-tech knowledge-intensive services	617	27.8
High-tech sectoral groups	1035	(46.6)
Low-medium-tech manufacturing	283	12.8
Low-tech manufacturing	901	40.6
Low-tech sectoral groups	1184	(53.4)
Total	2219	100

Dynamic capabilities in young ventures-descriptive statistics

	Total sample	High-tech subsample	Low-tech subsample	
	Mean value (N=2219)	Mean value (N=1035)	Mean value (N=1184)	t-test statistic (eta squared value)
New product development capability	3.75	3.82	3.68	4.156* (0.008)
Market sensing capability	3.76	3.86	3.67	4.988* (0.011)
Technology sensing capability	2.66	2.89	2.45	9.006* (0.036)
Networking capability	3.06	2.93	3.17	-6.261* (0.017)
Participation in technology collaborations	1.88	2.12	1.66	12.724* (0.069)

Dynamic capabilities have a significant impact on the probability of introducing radical innovations (new-to-the world)

	Innovation radicalness (ordered logit)		
	Total sample	High-tech	Low-tech
founding team size	0.006	0.006	0.003
avg. founding team educational attainment	0.026***	0.037***	0.008
average turnover	0.008**	0.016**	0.007*
product development capability	0.052***	0.069***	0.039***
market sensing capability	0.014**	0.004	0.014**
technology sensing capability	0.047***	0.069***	0.024***
networking capability	0.007	0.008	0.007
technology collaborations	0.029***	0.024**	0.025***
Log likelihood	-2522.617	-1198.615	-1314.342
LR test(χ^2)	363.80***	212.18***	119.49
Number of obs.	1987	946	1041

Technical sensing and technology collaborations appear to have a positive impact on young firms international sales

	Sales in international markets (linear regression)		
	Total sample	High-tech	Low-tech
founding team size	0.185	-0.167	0.291
founding team educational attainment	3.414***	4.020***	1.972**
avrg. turnover	3.142***	3.760***	3.105***
product development capability	-0.305	1.959	-1.524
market sensing capability	0.040	-1.403	0.583
technical sensing capability	2.926***	4.154***	1.503*
networking capability	0.892	-1.125	2.388**
technology collaborations	2.567***	1.947*	2.807**
constant	-15.146***	-16.695**	-11.379**
R squared adjusted	0.085	0.099	0.070
Number of obs.	1987	946	1041

Empirical findings (I)

- Dynamic capabilities can be present in newly-established firms which in their majority are micro and small firms. They appear to develop to a larger extent new product development and market sensing capabilities.
- DCs may exist in both LMT and HMT firms although capabilities such as technology sensing and participation in collaborative technology agreements seem to be present to a relatively smaller degree in LMT firms.
- DCs appear to have a significant positive impact on young firms innovative performance in both high and low-tech sectors suggesting that they DCs empower them to successfully exploit new opportunities.
- Participation in technology collaborative agreements appears to have a positive impact on all performance measures → young firms tend to draw on complementary resources and capabilities provided by their partners and face their internal shortage of resources.

Empirical findings (II)

- A firm's presence in international markets appears to be more dependent on technology adaptation rather than market adaptation → to extend its scope of activity beyond national borders a young firm has to readjust its technical resources and capabilities to fit the new conditions it faces in the foreign markets.
- DCs appear to have, in general, a positive impact on the performance measures of firms in both sector subsamples tested. This suggests that DCs can be of value and generate competitive advantage under various conditions of environmental dynamism.
- This study's findings by indicating that small, young firms operating in diverse environmental settings can also benefit from DCs contributes to a better specification of the boundary conditions for DCs, a significant precondition for any theory to move forward.