



A Novel Approach to Study the Gestation Process of Firms

Ferdinand Jaspers & Tony Hak

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New business creation is multidimensional

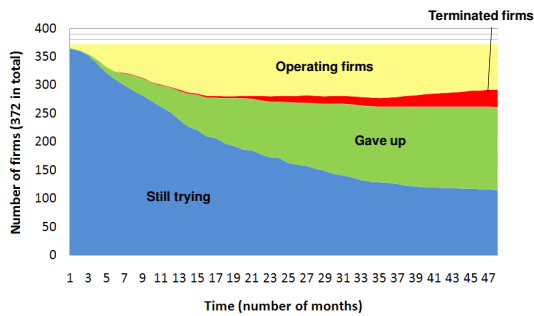
Gartner (1985):

1. Individual
2. Environment
3. Organization
4. Process

"we consider the processes of organization formation to be the core characteristic of entrepreneurship"

(Gartner & Carter, 2003, p.196)

PSED is key to our understanding of the firm gestation process



Gestation activities and events

Collect competitor information	Analyze market opportunity
Income from sales	Write a business plan
Registration of legal form	Make financial projections
Talk to potential users	Investigate regulatory requirements
Financing	Invest your own money
Development of product/service	Start new product development
Space usage	Patent application
Obtain outside financing	Make small purchases
Marketing and promotion	Make large purchases
Hiring people	Obtain supplier credit



BUT...

we know comparatively little about the temporal sequence of gestation activities



Process study findings

"[v]irtually all combinations were present"

(Reynolds and Miller, 1992, p.410)

"a complex, nonlinear process"

(Liao, Welsch and Tan, 2005, p.1)



Analytical problems

Traditional statistical techniques are suitable to test variance theories and they are not equipped to deal with temporally ordered data

(Liao et al., 2005)

Limited analytical techniques to investigate the sequence of gestation events

(Carter et al., 1996)



We have yet to fully exploit the potential of PSED

We aim to **capture** the temporal sequence of gestation activities

How do nascent entrepreneurs create companies?



Our approach

Our unit of analysis: pairs of events

Does A tend to occur before B, or B before A?

For each pair of events:

Is there a temporal tendency?

Or is the sequence random?



Data: our arbitrary choices

1. PSED II waves A, B, C, D
2. 1st thought about starting max. 12 months before wave A
3. Independent businesses only
4. Started businesses only → a sample of 111 businesses
5. Firm birth: having a 1st income from sales **AND** having registered the legal form
6. We considered nine gestation activities

9 gestation events; 36 pairs

Gestation Activity	Frequency	%
I Income from sales	111	100%
R Registration of legal form	111	100%
B Business research	108	97%
F Financing	102	92%
D Development of product/service	93	84%
S Space usage	93	84%
E Equipment/asset obtainment	92	83%
M Marketing and promotion	55	50%
H Hiring people	24	22%



One proportion z test

In our **sample** of 111 started independent businesses:

R before I: 54 times (62%)

I before R: 33 times (38%)

Simultaneous pairs were excluded

In the **population**, does a systematic tendency exist?

If the proportion of **R before I** in the population $\geq 60\%$

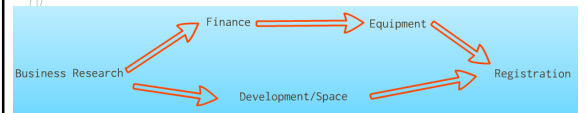
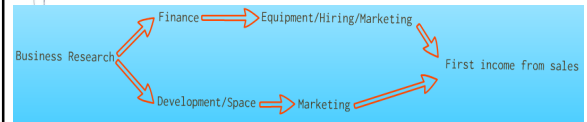
1-sided z-test, $\alpha = 0.05$

Test result: there is no temporal tendency between R and I

23 Significant pair sequences

A→B #	B→A #	Sample proportion
BM 48	MB 0	100%
BH 18	HB 0	100%
BI 92	IB 2	98%
BE 69	EB 2	97%
BR 86	RB 4	96%
FI 77	IF 5	94%
DI 64	ID 5	93%
EI 67	IE 6	92%
BS 57	SB 6	90%
FM 37	MF 4	90%
FH 16	HF 2	89%
SI 58	IS 9	87%
BF 54	FB 8	87%
MI 34	IM 5	87%
HI 13	IH 2	87%
FR 69	RF 11	86%
BD 52	DB 13	80%
DR 52	RD 14	79%
DM 30	MD 8	79%
SR 48	RS 15	76%
SM 22	MS 7	76%
ER 54	RE 20	73%
FE 39	EF 15	72%

Synthesized results



Conclusions

Clear temporal tendencies exist for pairs of events

Clear phases exist (partly overlapping and parallel)

The sequence of events is not random

Discussion & Limitations

- We did not include all possible events
- Arbitrary clustering of events
- Exclusion of simultaneous events
- Bias: fast-starting firms / low-tech
- Does it matter?
- Explore contingencies?



Thank you!

Ferdinand Jaspers: fjaspers@rsm.nl

Tony Hak: thak@rsm.nl

