Reducing Entrepreneurial Capability Constraints: The Broader Role of Venture Capital Due-diligence

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Summary

- Novel evidence: Venture Capital (VC) can provide more than just money!
- VC can add value to nonportfolio firms through Due-diligence (pre-deal activities)
    - Startups selected for Due-diligence have higher growth and lower probability of business continuation within two years of application, even if not get the funding.
    - Channel: reduces entrepreneurial capability constraints.
- Unique Dataset: a UK-based seed VC fund, 1953 startup applications, Mar 2017 - Nov 2019 (performance Mar 2017 - April 2020).

Research on the effects of failure on future performance
What doesn't kill you makes you stronger

- Research fund applicaiton studies: Wang, Jones and Wang (2019) compares near-miss with near-win.

nature communications

Early-career setback and future career impact

Yang Wang, Benjamin F. Jones & Dashun Wang ✉

Nature Communications **10**, Article number: 4331 (2019)

Abstract

Setbacks are an integral part of a scientific career, yet little is known about their long-term effects. Here we examine junior scientists applying for National Institutes of Health R01 grants. By focusing on proposals fell just below and just above the funding threshold, we compare near-miss with narrow-win applicants, and find that an early-career setback has powerful, opposing effects. On the one hand, it significantly increases attrition, predicting more than a 10% chance of disappearing permanently from the NIH system. Yet, despite an early setback, individuals with near misses systematically outperform those with narrow wins in the longer run. Moreover, this performance advantage seems to go beyond a screening mechanism, suggesting early-career setback appears to cause a performance improvement among those who persevere. Overall, these findings are consistent with the concept that "what doesn't kill me makes me stronger," which may have broad implications for identifying, training and nurturing junior scientists.

- Explanations: (1) advantageous characteristics; (2) failure itself teaching valuable lessons.
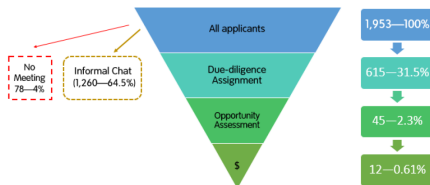
VC Due-diligence reduces Entrepreneurial Capability constraints

Due-diligence

- Comprehensive examination of a startup company conducted by VC investors before deciding whether to invest or not
  1. Initial review. Assign 3 reviewers to each applicants. Results: No meeting (4%), Informal Meeting (64.5%), Due-diligence (31.5%).
  2. If Due-diligence, Fund meet with the entrepreneur several times. Focus: Application, people, business model, performance, etc.

Figure 1. Selection Funnel

- Questions: Can startups say NO? Who in Due-diligence? Can reviewers invest as individuals or on behalf of other funds?

Entrepreneurial Capability

Entrepreneurial capabilities are non-pecuniary resources that affect business growth, including connections, information, learning from failure, market navigation skills, and securing financing (Sutton, 2012).

- Literature:
    - e.g., management practices like quality control systems (Bloom and Van Reenen, 2007); identifying market needs and establishing market recognition (González-Uribe and Reyes, 2021).
- However, hard to measure. This paper, weaker results when
    - (1) founders overconfident, *max(self-reported -perceived stages,0)*;
    - (2) Fund's info on applicants noisier, *reviewer disagreement*;
    - (3) interactions no chance of investment, *informal meeting*.
- My interpretation (2) startups more capability constrained, stronger effect...

- Alternatives
    - The startups selected for due-diligence are simply better.
        - What is the application pool? (online platform to receive applications)

Table I—Summary Statistics

Source	Variable	Mean	Std. Dev.	p5	p25	p50	p75	p95	N
Builtwith	Total # of Web Tech Adoptions	18.95	26.69	0.00	0.00	12.00	30.00	61.00	1,953
	ln(Total # of Web Tech Adoptions)	2.00	1.63	0.00	0.00	2.56	3.43	4.13	1,953
	Num. of A/B Testing	3.88	26.09	0.00	0.00	0.00	0.00	11.00	1,029
	ln(A/B Testing)	0.23	0.88	0.00	0.00	0.00	0.00	2.48	1,029

        - Fund can only pick a few due to limited resources.
        - Match?

- IV: Due-diligence Assignment Probability (DAP), constructed based on reviewer generosity and aggregate selection rule,

$$DAP_i = \sum_{s_1 \in \{1,2,3,4\}} \sum_{s_2 \in \{1,2,3,4\}} \sum_{s_3 \in \{1,2,3,4\}} p_{1(-i)}^{s_1} p_{2(-i)}^{s_2} p_{3(-i)}^{s_3} f(s_1, s_2, s_3)$$

- Concerns: more generous reviewers offer more feedback (table F2, longer comments).
- Question: what is the selection rule $f(s_1, s_2, s_3)$?
  - reviewer job designation matter?

- How representative is the sample?
    - A UK-based VC targeted at software sector, with average investment check size $500k to $1.5 million.
    - Application 2017 Mar - 2019 Nov, Observation 2017 Mar to 2020 April, average 1.93 y, but some < 1 year/during covid.
    - Related: Bias and Ljungqvist (2023) found recession startups have better performance. Time fixed effects?
- Every investor approaches Due-diligence process differently.

Conclusion

- Great paper, carefully executed, transparent and novel important evidence.
- Specific comments,
    - How #Due-diligence changes over time.
    - More information about startup technology adoptions from BuiltWith.
- "Training Doesn't Work," yet approaches like local customization and peer/mentor involvement show promise (McKenzie, 2020).
- What can we learn?
    - Failure? Training? What plays a role? Who?
    - Further into the specifics of entrepreneurial capabilities if possible (entrepreneurs with MBAs, investment lead network, etc).
- Look forward to seeing it published!

Thanks!