Stuck in Motion: Why Small Firms Stay Small

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Abstract

Most Indonesian enterprises never move from micro (1 to 4 workers) to small (5 or more). Support programs usually relax one constraint at a time, such as capital, skills, or registration. We ask whether that can work when the constraints reinforce one another.

We model the growth trap as five self-reinforcing loops joined by five couplings, and build an agent-based model grounded in a stratified owner-manager survey and in-depth case studies in Bandung Raya.

Factorial virtual experiments, run as a pipeline test on synthetic data, show that the answer depends on the counterfactual baseline: loops behave as complements and couplings as substitutes.

Keywords: growth trap, path dependence, agent-based simulation, owner identity, MSME

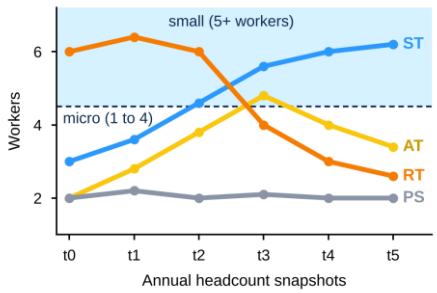
Introduction

Indonesia's enterprise base is dominated by micro firms, and most stay micro for as long as they exist. Research has identified many separate constraints on growth: modest aspirations, limited capital and skills, owners' reluctance to delegate, and identities that make expansion feel "not meant for a business my size". Programs that relax one constraint report real but modest gains in profit and little movement across size classes.

Path dependence theory suggests why. When self-reinforcing mechanisms lock a firm in place, relaxing one leaves the others working. The theory says little, however, about how the mechanisms combine.

Research question. When growth constraints form interacting loops, does relaxing them one at a time achieve as much as relaxing them together?

Why it matters. A program that removes one constraint is evaluated in a world where all others still operate. If constraints are complements, that estimate understates what a bundled program could achieve; if they are substitutes, it overstates it.



Picture 1. Four transition states classify firms around the 5-worker threshold (stylized)

Research Method

A sequential design links field evidence to simulation (Picture 2). A stratified survey classifies owner-managers into four transition states from five annual headcount snapshots and measures behavior with incentivized tasks and a growth self-schema scale. Case studies explain how each mechanism works and the order in which owners decide. An agent-based model turns these findings into decision rules.

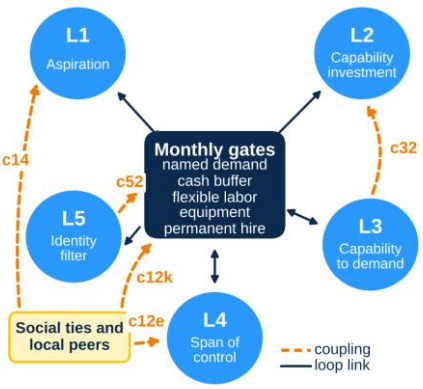


Picture 2. Research design and inferential chain

Model. Each month a simulated firm passes five gates found in the cases: named demand, cash, flexible labor, equipment, and permanent hiring last (Picture 3). Every loop and coupling can be switched off.

Calibration. Under a quota design, aggregate statistics mirror the sampling plan and fail to identify the model, so we match 20 moments within strata.

Experiments. Full 2^5 factorials switch loops and couplings off singly and jointly (20 seeds × 1,500 firms).



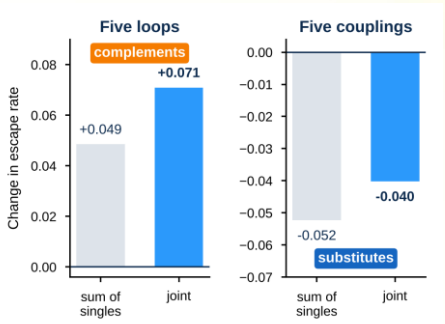
Picture 3. Model architecture: five loops (L1 to L5) and five couplings

Discussion & Result

Results below come from a pipeline test on synthetic data and show what the design can detect. They will be replaced by estimates from the field data.

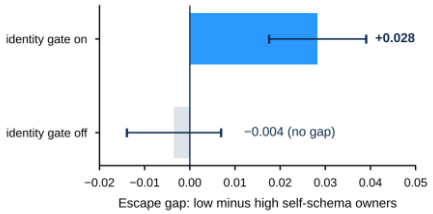
Loops are complements. Switching off all five loops raises the escape rate by 0.071, more than the 0.049 sum of single-loop effects (Picture 4). Span of control and capability investment carry most single effects; aspiration has none.

Couplings are substitutes. Switching off all couplings lowers escape by 0.040, less than the 0.052 implied by single effects. The largest effect is enabling: recruitment through social ties.



Picture 4. Sum of single effects versus joint effect on escape (pipeline test)

Identity acts on the distribution. The identity filter has no average effect, yet it creates the whole escape gap between low and high self-schema owners (Picture 5). Questions framed around missing resources cannot detect it.



Picture 5. Identity gate creates the gap between owner types (pipeline test)

Conclusion

What breaking a growth trap achieves depends on the baseline it starts from. Because the loops support one another, single-constraint programs evaluated one at a time will look weak even where a bundled program would work.

Policy: test bundled programs in factorial field experiments, protect network recruitment, and target identity-filtered owners differently from owners who lack financial tools.

Next step: complete field data collection, recalibrate, and rerun the experiments.