The Entropiex Investment Thesis

AI-Enabled Value Creation in Lower-Middle-Market Service Businesses

TMDP Capital · Entropiex · 2026

Executive Summary

A generational transfer is underway in American small business. Over the next decade, an estimated $10 trillion in business value will change hands as the Baby Boomer generation exits ownership - the largest wealth transfer in commercial history. The businesses at the center of this transfer are not technology companies. They are HVAC contractors, CPA firms, insurance agencies, medical practices, and electrical contractors - the service and knowledge businesses that form the operational backbone of the American economy.

Most of these businesses share three characteristics: they are profitable, they are operationally manual, and their owners are tired. The average small business owner in the United States is 57 years old. Many have been running the same operation for 20 to 40 years with no succession plan, no digital infrastructure, and no realistic path to the kind of exit that rewards a career of work. When they sell - if they sell - they sell at 1.5 to 2.5x seller's discretionary earnings to a buyer who sees the same limitations they do.

Entropiex is the thesis that these limitations are not permanent. They are operational - and they are solvable with a precision AI deployment that can be repeated across verticals, geographies, and deal sizes.

We acquire lower-middle-market service businesses at manual-operation multiples and deploy a proprietary multi-agent AI operating system that eliminates 35-65% of operational waste - the missed calls, slow quotes, administrative burden, and process friction that suppress both revenue and margins. The AI layer is not a point solution. It is an integrated system of specialized agents that handle intake, qualification, pricing, scheduling, documentation, follow-up, and continuous optimization - working in parallel, learning from every interaction, and compounding performance gains over time.

The result is a transformed business: faster, leaner, more profitable, and - critically - systemized in a way that commands a premium from the PE rollup buyers, strategic acquirers, and platform operators who represent the natural exit for these assets.

The arbitrage is structural. Buy at 1.5-2.5x SDE. Deploy the Entropiex OS. Grow SDE 40-80% through waste elimination and revenue capture. Exit at 3.5-6x SDE to buyers who value systemized operations. The multiple expansion alone generates returns before accounting for the underlying earnings growth.

This paper presents the market opportunity, the operating methodology, the proof of execution, and the path to scale.

I. The Market Opportunity

The Scale of the Transition

There are 36.2 million small businesses in the United States, employing 62.3 million people - 46% of the private workforce (SBA, 2026). Across our eight target verticals alone - HVAC, insurance, accounting, legal, mortgage, behavioral health, construction, and medical - approximately 1.8 million firms generate a combined $1.7 trillion in annual revenue. The estimated addressable market for AI services across these verticals is $30-74 billion annually.

The demographic math is unambiguous. McKinsey's 2026 Institute for Economic Mobility report calls the coming decade "the largest wave of small-business ownership transitions in modern history." By 2035, approximately 6 million SMBs will face ownership transitions, representing $5 trillion in enterprise value. According to the Exit Planning Institute, 76% of business owners plan to exit within the next ten years. Fewer than 30% have a succession plan. Nearly 50% of exits are involuntary - triggered by death, disability, divorce, or economic stress. The result is a buyer's market of historic proportions - not because these businesses lack value, but because the supply of sellers is overwhelming the supply of sophisticated buyers.

Why These Businesses Trade at Discounts

A 30-year HVAC company with $2.4M in revenue, $500K in SDE, and a 4.7-star Google rating should, by any rational measure, command a premium. It doesn't. It trades at 1.5-2x SDE - roughly $750K to $1M - because the buyer is pricing in what the seller has failed to build:

No systems. The owner *is* the system. Pricing lives in their head. Customer relationships live in their phone. Scheduling lives on a whiteboard.

No digital infrastructure. No CRM, no automated follow-up, no review generation, no data on conversion rates or customer lifetime value.

Key-person risk. If the owner leaves, 40-60% of the institutional knowledge leaves with them.

No growth trajectory. Revenue has been flat for years - not because demand is absent, but because the owner has been too busy doing the work to build the business.

These are not broken businesses. They are underleveraged assets with a solvable operational gap. The discount reflects the market's correct assessment that the current owner cannot close that gap - and the market's incorrect assumption that the gap is permanent.

The AI Timing Window

AI adoption among small and medium businesses stands at 8.8% for production use (SBA, 2026) - up from 6.3% just six months prior. Vendor surveys place broader experimentation at 55-68% (U.S. Chamber, Goldman Sachs, Thryv). But the businesses in our target segment - owner-operated, non-tech, often pre-digital - are at the low end of that range. Critically, 42% of small businesses report lacking the resources or expertise to deploy AI at all. That gap is the opportunity.

The economics are already proven. Among SMBs that have adopted AI, 91% report revenue increases, 86% see improved profit margins, and 58% save 20 or more hours per month (Salesforce, 2025). The ROI is not theoretical. It is measured, documented, and replicable.

This creates a temporary asymmetry. The technology to transform a manual service operation into a systemized, AI-enabled business exists today and is deployable in weeks, not quarters. But the sellers don't know this, the brokers haven't priced it in, and the traditional buyer pool - which consists largely of search funds, individual operators, and small PE firms using conventional playbooks - is not equipped to execute it.

The window will close. As AI deployment becomes commoditized and more acquirers adopt technology-driven value creation strategies, the arbitrage narrows. The advantage belongs to the firms that build the operating capability now, deploy it repeatedly, and accumulate the proprietary performance data that compounds with every engagement.

II. The Structural Advantage of Incumbents

The conventional venture thesis assumes that AI-native startups will displace incumbents in service markets. This assumption fails on three grounds.

Regulatory barriers are real and durable. A C-10 electrical contractor's license in California requires verified work experience, a business and law examination, a trade examination, a surety bond, and active insurance. The process takes years. A CPA license requires 150 credit hours, a four-part exam, and supervised experience. A medical license requires a decade of training. No software platform shortcuts these requirements. AI-native entrants must either employ or affiliate with licensed professionals - which means they are dependent on the very workforce that incumbents already possess.

Relationship capital is non-replicable. Twenty years of Mrs. Chen calling every spring for her HVAC tune-up. Three hundred Google reviews built one satisfied customer at a time. The CPA who structured a client's depreciation schedule in 2019 and still remembers why. These relationships represent a barrier that

cannot be funded, coded, or accelerated. A startup with $50M in venture capital still needs five to ten years to build what an established operator already has.

Trust transfers with the business, not with the technology. When a customer hires a 30-year contractor, they are buying a reputation. When the business changes hands and the service quality improves - faster responses, more consistent pricing, better follow-up - the trust deepens. The customer experiences improvement without disruption. This is the opposite of what happens when an AI-native startup enters a market and asks customers to trust an unknown entity.

The Entropiex thesis inverts the conventional technology narrative. Instead of building new businesses that must earn trust from zero, we acquire businesses that already have it - and deploy the AI layer that makes the trust even more justified.

III. The Entropiex Operating System

Architecture

The Entropiex OS is not a product. It is a deployment methodology and a multi-agent architecture that adapts to the specific waste profile of each acquired business.

A typical deployment consists of five to eight specialized AI agents operating in parallel:

Intake Agent - Answers every inbound call, SMS, and web inquiry. Qualifies the lead against the business's service criteria. Routes hot leads for immediate follow-up.

Pricing Agent - Applies the owner's pricing rules, modifiers, and compliance requirements to generate accurate quotes in real time.

Scheduling Agent - Checks availability, books appointments, manages rescheduling and confirmation sequences.

Documentation Agent - Generates proposals, contracts, compliance documents, and regulatory filings from structured data.

Follow-Up Agent - Manages post-service sequences: review requests, referral asks, seasonal check-ins, warranty reminders.

Domain Expert Agent - Carries vertical-specific knowledge: NEC code for electrical, HVAC load calculations, tax code for CPAs, USCIS form requirements for immigration attorneys.

Optimization Agent - Runs the autoresearch loop (see below), generating and testing hypotheses against live operational data.

The agents collaborate through a shared context layer. Information entered once - during a phone call, for example - propagates instantly to every agent that needs it. The customer experiences a single, highly competent interaction. Behind the scenes, six agents executed in parallel.

The Autoresearch Loop

After initial deployment, the system enters a continuous experimentation cycle. The methodology draws on principles proven in manufacturing (continuous improvement), in software (A/B testing at scale), and in frontier AI research (autonomous experimentation against fixed objectives).

The system generates its own hypotheses. Should the receptionist ask for the customer's email in the first 30 seconds or wait until qualifying the job? Should quotes include three pricing options or one? Should the follow-up text go out at hour 4 or day 2? The system designs the experiments, runs them within statistically valid cohorts, and measures outcomes against the KPIs identified in the waste audit.

In a pilot deployment, the autoresearch loop ran 47 micro-experiments in 90 days. Quote close rates moved from 31% to 44% - not from a single breakthrough, but from the accumulation of 12 retained improvements, each worth between 0.3 and 4.2 percentage points.

The compounding effect is the moat. A competitor can replicate the architecture. They cannot replicate six months of accumulated experimental results tuned to a specific business's customers, geography, pricing sensitivity, and service mix. Every cycle widens the gap. The loop is the mechanism. The accumulated data is the defensibility.

Deployment Timeline

Week	Activity	Outcome
1	Waste audit	Quantified waste profile, prioritized targets
2-3	First agent deployment	Typically intake/receptionist - highest-impact, lowest-risk
4-6	Measurement against baseline	Before/after on primary KPIs
7-8	Second agent deployment	Usually pricing or scheduling
8-12	Autoresearch loop activation	Continuous optimization begins
12+	Full OS operational	All agents deployed, compounding quarterly

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IV. Proof of Execution

Portfolio Company: Bay Area Electrical Contractor

The Entropiex OS was developed and proven in a live operating business - a licensed C-10 electrical contractor in San Mateo County, California.

Before deployment:

- 40% of inbound calls going to voicemail
- Quote turnaround: 3-5 days
- Close rate: 31%
- Owner spending 11 hours/week on phone qualification
- Zero after-hours lead capture
- No automated review generation

After deployment (90 days):

- 0% missed calls (24/7 AI receptionist)
- Quote turnaround: under 30 minutes (first contact to signed contract)
- Close rate: 44% (+42% improvement)
- Owner time on phone: under 2 hours/week
- After-hours leads captured: 100%
- Google review rating: maintained at 5.0 with 3x volume

Revenue impact: +$37,000/month in captured revenue, no additional headcount. Annualized: $444,000 in incremental revenue from the same lead volume.

Adjacent Proof: Legal/Claims Deployment

The multi-agent architecture was stress-tested in a legal context: automotive auction arbitration involving undisclosed vehicle damage, three defendants, and a 10-day filing deadline.

Four agents operated in parallel: document ingestion, legal narrative generation, compliance formatting, and deadline management. Result: a 21-page professional arbitration claim filed 24 hours ahead of deadline - work that would have required 80+ attorney hours compressed to 8.

Architecture Validation: Medical Practice Design

A primary care practice deployment was architectured (design phase) addressing physician documentation burden. Pre-visit agents handle symptom intake, clinical history retrieval, lab interpretation, pharmacology checking, and evidence-based guideline summarization - producing a draft treatment plan before the physician enters the room.

Projected impact: documentation time from 30% to under 8% of working hours. Capacity increase of 6 patients per day. The architecture is validated; deployment is pending.

V. The Acquisition Playbook

Deal Criteria

Parameter	Tier 1 (Phase 1)	Tier 2 (Phase 2)	Tier 3 (Phase 3)
Asking price	$300K-$500K	$500K-$1M	$1M-$2M
Revenue	$400K-$1M	$1M-$2.5M	$2M-$5M
SDE	$100K-$180K	$180K-$350K	$350K-$650K
Cash required	$140K-$225K	$225K-$400K	$350K-$650K
Hold period	18-36 months	24-48 months	36-60 months
GM requirement	Operator-managed	Hired GM	Hired GM from day one

Sourcing

Three channels, prioritized by quality:

Off-market direct outreach. CSLB license database mining, Diamond Certified research, owner demographics analysis. Personal letters to owners showing retirement signals (license expiration, sole ownership, 20+ year tenure). This is the highest-quality deal flow because there is no broker, no auction, and no competing bids.

Broker relationships. BizBuySell, business brokers specializing in service businesses. These deals are priced higher but move faster.

Referral network. CPAs, attorneys, and financial advisors who represent aging business owners. These are the advisors who know which clients are thinking about transition before a listing exists.

Underwriting Discipline

Lessons encoded from prior deal experience:

Three years of tax returns minimum - never trust broker-presented SDE

Monthly P&L mandatory - annual figures hide dangerous volatility

RMO/license holder commitment in writing before closing

Full employee disclosure including medical and key-person dependencies

Fleet and equipment age audit - hidden capex kills returns

Lease review with 12+ months remaining or renewal secured pre-close

Independent verification of every material claim

The BizzBuy ScoreTM

A proprietary 100-point scoring framework for acquisition evaluation:

Pillar A - Business Quality (50 points): Revenue quality and concentration, profitability and cash flow trends, operational health, market position and reputation.

Pillar B - AI Leverage Potential (50 points): Lead generation automation opportunity, operational efficiency gains, customer communication improvement, pricing and data intelligence upside.

Scoring bands: 80-100 = Strong Buy | 65-79 = Conditional Buy | 50-64 = Needs Work | Below 50 = Pass.

The counter-intuitive insight: low technology sophistication scores *high* on Pillar B. The most manual businesses offer the greatest AI transformation upside.

VI. The Exit Thesis

Who Buys at the Back End

The natural buyers for AI-transformed service businesses are PE platform operators executing rollup strategies across fragmented verticals. These buyers pay premiums for systemized operations because systemization is

what enables the rollup - they need businesses that can be integrated without the original owner.

Active PE rollup verticals and representative buyers:

Vertical	Representative Buyers	Typical Exit Multiple
HVAC/Plumbing	ARS/Rescue Rooter, One Hour, Service Experts	4-6x EBITDA
Insurance (Independent)	Acrisure, AssuredPartners, Hub International	8-12x EBITDA
Accounting/CPA	Decimal, Pilot, regional CPA rollups	3-5x revenue
Home Services	Authority Brands, Neighborly, FirstService	4-6x EBITDA

The Multiple Expansion Math

Consider a Tier 1 acquisition:

Entry: $2M revenue, $500K SDE, acquired at 1.6x SDE = $800K purchase price

Post-Entropiex (18-36 months): Waste elimination recovers 35% capacity, AI-captured leads increase revenue 20%. New SDE: $750K-$800K

Exit: Systemized operation with documented AI infrastructure, consistent processes, no key-person dependency. Exits at 3.5-4.5x SDE = $2.6M-$3.6M

Return: $1.8M-$2.8M gross profit on $400K cash invested (4.5-7x cash-on-cash, excluding leverage)

The math improves with SBA 7(a) financing, which allows 10-15% equity injection on qualifying deals. A $800K acquisition with SBA financing requires approximately $100K-$120K in equity, pushing cash-on-cash returns to 15-23x.

Why PE Pays a Premium for Entropiex-Transformed Businesses

Reduced integration risk. Systemized operations integrate into a platform without the original owner.

Documented performance data. The autoresearch loop produces a complete operational dashboard - conversion rates, response times, customer satisfaction trends - that PE diligence teams require.

Proven growth trajectory. Twelve months of compounding improvement demonstrates the business is on an upward curve, not a plateau.

Transferable AI infrastructure. The Entropiex OS remains operational post-acquisition, continuing to compound.

VII. Target Verticals

Eight verticals are under active evaluation, ranked by severity of operational waste, defensibility of competitive moat, and depth of the acquisition pipeline.

Vertical	# Target Firms	Market Size	Waste Profile	PE Exit Multiple	Rollup Activity
HVAC/Plumbing	~350,000	$220B+	45-55%	6-10x EBITDA	149 deals in 2025 alone
Independent Insurance	~39,000	$150B+	40-50%	7-12x EBITDA	1 in 3 agencies changing hands in 5 yrs
CPA/Accounting	~89,000	$160B	55-65%	4-7x EBITDA	Carlyle, New Mountain entering
Immigration Law	~20,000	$14B	60-65%	2-4x revenue	Emerging - regulatory barriers loosening
Mortgage Origination	~300,000+	$1.7T volume	50-55%	4-7x EBITDA	Active as rates normalize
Behavioral Health	~200,000	$105B	40-50%	8-14x EBITDA	Fastest consolidating healthcare segment
Construction/Trades	~700,000	$500B	35-45%	3-6x EBITDA	Growing - EMCOR, Comfort Systems
Medical Practices	~230,000	$990B	45-55%	6-12x EBITDA	Mature - MSO rollups

The initial focus is HVAC, electrical, and insurance - verticals where the operator has direct domain expertise, the acquisition pipeline is deepest in both volume and quality, and the PE exit market is most developed. In HVAC alone, Capstone Partners tracked 149 M&A transactions in 2025, a 12.9% year-over-year increase. In insurance, one in three independent agencies expects an ownership change within five years.

VIII. The Team

Between us, we have deployed hundreds of millions of dollars in capital expenditure programs across Fortune 500 manufacturing and infrastructure operations. We have sold and delivered hundreds of millions in AI

transformation engagements to C-suite buyers worldwide. We have architected and shipped production AI systems - software and hardware - at one of the world's largest cloud platforms.

None of that is the point. The point is that we took all of it - the engineering discipline, the deal execution, the AI architecture - and applied it to real businesses. We deployed the Entropiex OS across multiple service operations in different verticals. In every case, the pattern was the same: operational waste identified, AI layer deployed, capacity recovered, and the professionals back to doing the work that only they can do.

We are not theorists. We are not consultants. We built the system, proved it across multiple operations, and are now deploying it into every business we acquire.

IX. Why Now

Three forces are converging simultaneously:

Demographic pressure. The average business owner is 57. The wave is cresting now, not in five years. Early movers will have their pick of the best assets at the lowest multiples.

Technology readiness. Multi-agent AI systems capable of operating a service business end-to-end became viable in early 2026. The technology exists. The deployment methodology is proven. What's missing is the acquisition vehicle to deliver it at scale.

Market ignorance. The broker community, the SBA lending community, and the traditional search fund ecosystem have not yet priced AI-driven value creation into their models. Deals are still underwritten on historical performance, not transformed potential. This is the informational asymmetry that generates outsized returns.

The capital markets see it clearly. In 2025 alone, investors deployed $10.7 billion into AI healthcare startups - up 24% year-over-year. AI adoption in healthcare is running 2.2x faster than the broader economy. Across every service vertical, the pattern is the same: venture money is chasing the technology. We are acquiring the businesses the technology needs to reach.

The window is finite. As more acquirers adopt AI-driven playbooks, multiples will compress from the buy side, and sellers — or their advisors — will begin pricing in the transformation upside. The structural advantage belongs to the firms that are deploying now, accumulating proprietary data, and building repeatable systems while the market is still catching up.

X. The Search Fund Model — and Why This Is Different

The search fund model has delivered 32.6% IRR and 5.5x returns over 401 tracked funds (Stanford GSB, 2020). We studied it. We borrowed what works. And we built something different.

The traditional search fund spends 18 to 24 months looking for a single deal — one in three never closes. Value creation is conventional management. Hold periods run six to ten years.

We start where the search fund model ends. We do not spend two years searching — our pipeline is already built, sourced through direct outreach, license database mining, and operator relationships. We do not rely on conventional management improvements alone — we deploy a proprietary AI operating system that eliminates 35-65% of operational waste in the first 90 days. We do not hold for seven years — hold periods are deal-dependent, typically 18 months to 5 years, driven by the value creation trajectory. Some businesses reach exit-readiness quickly. Others benefit from compounding longer. The AI layer produces documented, measurable, transferable performance improvements that make the business ready when the right exit presents itself.

The search fund model proved that acquiring and improving small businesses is a viable investment thesis. What it lacked was a technology lever that could compress the value creation timeline and make the improvements systematic, repeatable, and independent of the operator's personal capacity.

That lever now exists. We built it.

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