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# Standardization of Informal Labor Operations: Transforming Moving Crews into Structured Service Units

***Abstract***

Moving and relocation is a global industry valued at over 80 billion dollars annually, yet it operates with fewer standardized procedures than virtually any other service sector of comparable size. Manufacturing adopted process maturity models in the 1980s, healthcare followed in the 2000s, and information technology built an entire discipline around service management frameworks. Moving companies, by contrast, remain largely informal: crews receive verbal instructions, quality depends on individual experience, and performance data are rarely collected in any systematic way. This paper proposes the Standardization Maturity Model for Informal Service Operations (SMM-ISO), a four-stage framework (Ad Hoc, Documented, Managed, Optimized) that describes how a moving company progresses from unwritten practices to data-driven service delivery. SMM-ISO was developed and tested through a 12-month longitudinal case study at Easy Moving LLC, a mid-size carrier based in Boston, Massachusetts, where three successive interventions were implemented between March 2024 and February 2025. Integrated performance data show improvements across all tracked indicators: on-time completion went from 81% to 94%, damage claims fell by roughly a third, crew-level resolution of on-site deviations rose from 38% to 67%, and client complaints tied to field operations dropped by 41%. These changes coincided with the interventions but cannot be attributed to them with certainty, given the single-site design. Later interventions depended on the documentation and measurement infrastructure that earlier ones had put in place, which means the order matters. SMM-ISO offers small carriers a workable path toward formalized operations that does not require enterprise-level technology.

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**JEL:** M11, L23, L84, J46, O17



## 1 Introduction

Global moving services generated an estimated 82 billion dollars in revenue in 2023, with North America accounting for roughly 40% of that total and the Asia-Pacific region growing at the fastest rate as urbanization accelerates in China, India, and Southeast Asia (industry estimates based on publicly available market reports). In the United States alone, approximately 7,000 moving companies operate around 50,000 trucks and employ over 120,000 workers (FMCSA, 2024). European markets, though smaller in aggregate, show similar fragmentation: the United Kingdom, Germany, and France each support thousands of small carriers handling domestic and cross-border relocations within the EU framework. Despite this scale, the moving industry, particularly its small-carrier segment, appears to lack the operational infrastructure that other service sectors take for granted. Hospitals and airlines operate under clinical pathways and crew protocols reviewed by regulatory bodies; hotel chains enforce brand standards through training programs and mystery shopper audits. A moving company, in most jurisdictions, needs a truck, a license, and a phone number.

Size alone does not explain the gap. Other industries of similar scale standardized decades ago. What sets moving apart is the service itself. Crews enter private homes, handle belongings that range from disposable to irreplaceable, navigate buildings they have never seen before, and work against a clock set by a client who is often standing in the room watching them. Service failures are immediate and visible: a scratched table, a late arrival, a crew that cannot fit a sofa through a doorway. In healthcare and aviation, service standardization emerged after high-profile failures made the cost of informality impossible to ignore. Moving has not had its equivalent moment,

partly because individual failures are small in dollar terms and partly because the workforce turns over too quickly for institutional memory to accumulate. Quality ends up depending almost entirely on who shows up on the truck that morning.

Standardization research has followed a predictable path from manufacturing outward. Levitt (1972) argued that services could and should adopt the production-line logic that had transformed factory work, treating every customer interaction as a repeatable process subject to design, control, and improvement. Service blueprinting turned that argument into a practical method by mapping customer-facing and backstage activities into a reproducible sequence (Shostack, 1987). Lean principles migrated from Toyota to hospitals, banks, and call centers over the following decades (Womack & Jones, 2003; Bowen & Youngdahl, 1998). Process maturity models, originally developed for software engineering in the 1980s, were generalized into frameworks applicable to any organization seeking to move from chaotic to optimized processes (Hammer, 2007; Röglinger et al., 2012). Healthcare added patient safety layers during this migration, IT services added incident management protocols, and food service chains added franchise compliance mechanisms. Moving has not yet undergone a comparable adaptation. Crews are mobile, dispersed across job sites, and often assembled from a rotating labor pool. There is no factory floor to walk. Workstations change with every job site, and the team assembled on Monday morning may look completely different by Wednesday.

Informal economy research frames this gap from a different angle. Chen (2012) described informal employment as work that operates outside the reach of labor regulation, social protection, and quality oversight. By that measure, much of the moving industry's small-carrier segment qualifies. Workers frequently lack written contracts, training records, or performance evaluations. Pay is calculated per job, with no hourly rate. At most small carriers, dispatch runs on the owner's memory: who is available, who did well last time, who can handle stairs. World Bank research spanning 60 economies found a consistent pattern: informal enterprises produce less, vary more, and lose clients faster than formalized competitors in the same sector (Ohnsorge & Yu, 2022). Fixing this is not a matter of registering a business or filing paperwork. It means building the documentation, measurement, and feedback systems that formalized companies run on and that informal ones have never had.

Quality management research adds a further dimension. Small and medium enterprises often recognize the value of standardized processes but lack the staff, time, and expertise to implement frameworks designed for large organizations (Ghobadian & Gallear, 1997). Hammer (2007) proposed a process maturity spectrum with four levels, contending that organizations must pass through each level sequentially because the measurement systems built at one level become the foundation for improvement at the next. Van Looy et al. (2014) mapped capability areas onto maturity stages and showed that skipping a stage typically produces superficial change that does not survive the first operational disruption. For a moving company with no written procedures, jumping directly to optimization is not realistic; the path runs through documentation and measurement first.

Against this background, the present study proposes the Standardization Maturity Model for Informal Service Operations (SMM-ISO), a four-stage framework designed for service companies that begin with no formal processes and limited technology. Ad Hoc, the first stage, describes an organization where operations rely on individual knowledge, nothing is written down, and no one collects performance data in any systematic way. Once key processes are documented, roles specified, and baseline metrics established, the organization enters the Documented stage. Managed, the third stage, introduces feedback loops that connect field data to daily decisions: protocols guide problem solving in real time, and leadership behaviors become visible through structured observation. At the highest level, Optimized, cross-metric integration enables continuous improvement, and the organization can spot and correct performance drift on its own. SMM-ISO was developed and tested through a 12-month longitudinal case study at Easy Moving LLC, a mid-size carrier based in Boston, Massachusetts where three interventions were designed and implemented in sequence between March 2024 and February 2025. By analyzing the cumulative effect of all three interventions within a single organizational narrative, the article tests whether the sequencing of stages affected outcomes and evaluates SMM-ISO as a replicable framework for other informal service operations.

Five research objectives guide the analysis. First, document the operational characteristics of each SMM-ISO stage as observed at the case site. Second, compile integrated performance metrics across all three interventions to assess cumulative impact. Third, compare the observed standardization trajectory with established change management and process maturity models. Fourth, identify barriers encountered at each stage transition and the mechanisms used to overcome them. Fifth, evaluate the generalizability of SMM-ISO beyond the single-company case.

## 2 Literature Review

Service standardization began as a manufacturing import. Levitt's (1972) proposal to run services like production lines challenged the assumption that every service encounter is unique and therefore resistant to systematization. Service blueprinting made this idea operational by decomposing a service

into sequential steps, separating customer-visible actions from backstage processes, and marking the points where quality is most likely to break down (Shostack, 1987). Later refinements added layers for technology-mediated interactions and cross-functional coordination (Bitner et al., 2008). Any moving blueprint would need to handle buildings that differ from job to job, scope that clients change on the day of the move, and crew rosters that shift between mornings. No published blueprint exists for household moving services, and the method has not been tested in any physically intensive mobile service context.

Lean thinking provides a second standardization pathway. Five core principles guide the approach: define value from the customer's perspective, map the value stream, create flow, establish pull, and pursue perfection (Womack & Jones, 2003). Adapting these principles for services, Bowen and Youngdahl (1998) argued that production-line efficiency and customer-responsive flexibility can coexist when waste is identified and removed at each process step. Seddon (2005) offered a contrasting view, warning that applying manufacturing templates without understanding service demand creates what he called "failure demand": work generated by the organization's own inability to do things right the first time. Consider a moving company that sends an undersized crew because the dispatch system lacks accurate job data. The return trip, the rescheduled afternoon, and the client complaint are all waste that a better front-end process would have prevented.

Process maturity models offer a third lens. Hammer (2007) laid out four maturity levels (ad hoc, defined, managed, optimized) and stressed that movement between levels is sequential: measurement infrastructure built at one level supports the control mechanisms at the next. Röglinger et al. (2012) reviewed 37 published maturity models, classified them by purpose (descriptive, prescriptive, comparative), and found that most assume an IT-enabled organization with centralized data systems. Methodological requirements for building a credible maturity model include a clear scope, empirically grounded stages, and validation through application (De Bruin et al., 2005). Six capability areas recur across maturity frameworks: documentation, measurement, control, improvement, innovation, and culture. Organizations rarely advance on all six at once; documentation and measurement tend to lead, with cultural change lagging behind (Van Looy et al., 2014). For a small moving carrier, this is both reassuring and cautionary. Starting with documentation is the right entry point, but expecting cultural buy-in before the data demonstrate value is unrealistic.

Organizational change models address the human side of standardization. Lewin's (1947) three-phase model remains foundational despite its age: people do not adopt new processes until the old way stops working or stops feeling safe. Most subsequent frameworks, including Kotter's (1996) widely cited eight-step model, were developed from large-corporation case studies and assume dedicated change management resources that small enterprises simply do not have (By, 2005). Most moving company owners who decide to formalize operations serve as dispatcher, HR manager, accountant, and lead salesperson simultaneously. Corporate change playbooks make conceptual sense at that scale, but their execution in a five-person office bears little resemblance to the rollouts from which they were derived.

Table 1 maps standardization approaches across six industries and identifies which elements transfer to moving and which do not.

Informal economy research rounds out the theoretical base. World Bank research spanning 60 economies found that informality depresses productivity through a cluster of linked deficits (Ohnsorge & Yu, 2022). Organizations that keep no records cannot learn from past performance. Where measurement is absent, targeted improvement has no foundation. And where accountability structures do not exist, quality depends on individual motivation, with no organizational system to backstop it. Formalization programs in developing economies have

TABLE 1 Standardization approaches across industries and their transferability to moving services

| Industry | Primary Tool | Key Source | When Adopted | What Transfers | What Does Not |
|---|---|---|---|---|---|
| Manufacturing | CMMI, Lean, Six Sigma | Womack & Jones (2003) | 1980s onward | Stage-based maturity logic; waste identification | Fixed workstations; stable production runs |
| Healthcare | Clinical pathways, checklists | Hammer (2007) | 2000s onward | Checklist culture; safety-focused protocols | Regulated accreditation; stable teams |
| IT services | ITIL, BPM maturity | Röglinger et al. (2012) | 1990s onward | Maturity-level progression; incident logging | Digital infrastructure; centralized databases |
| Food service | Franchise standards, blueprints | Bowen & Youngdahl (1998) | 1970s onward | Production-line service model; training scripts | Fixed locations; repeatable menu items |
| Construction | Project mgmt, ISO 9001 | Bettiol et al. (2022) | 2010s onward | Mobile workforce mgmt; site variability | Multi-month timelines; engineering specs |
| Moving | None documented | – | – | – | Gap this study addresses |

*Source: compiled by the author*

a mixed record; they tend to fail when compliance costs arrive before visible benefits (Chen, 2012). Globally, over two billion workers remain informally employed, and the sectors most affected include construction, domestic work, and transportation (ILO, 2023). Moving straddles the last two categories, which helps explain why the industry has absorbed the informality norms of both. FMCSA complaint records (2024) show that consumer grievances against U.S. movers cluster around the same issues year after year: damage, lateness, price disputes. An industry that cannot convert individual complaints into systemic corrections is, by definition, stuck at the ad hoc stage.

What is missing from all these literatures is a maturity model built for organizations that begin below the starting line of existing frameworks. CMMI assumes the organization already documents its processes. Hammer's model starts with "ad hoc" but treats it as a temporary condition to be escaped, not a stable state requiring its own transition strategy. SMM-ISO fills this gap with a stage model that treats informality as the default starting condition and builds each subsequent stage on capabilities the previous one created, without requiring technology investments or structures that small carriers cannot afford.

## 3 Materials and Methods

This study follows a single-case longitudinal design, an approach suited to phenomena that unfold over time within a bounded organizational context (Yin, 2018). Easy Moving LLC, a household goods carrier operating in Boston, Massachusetts served as the case site. On a typical month the company handles over a hundred moves, residential and commercial combined, using several dozen crew members spread across multiple trucks. Who works with whom changes daily depending on the jobs and who picks up the phone. Before March 2024, nothing about these operations was written down. There was no training manual, no standard procedure document, and no performance data beyond what appeared on invoices.

Change happened in three rounds over twelve months. Between March and August 2024, crew allocation moved from the owner's intuition to a scored system: the Adaptive Crew Management Framework (ACMF) brought in job complexity scoring, a crew composition matrix, and a workload rotation protocol. September 2024 added two more layers that ran through February 2025: a Field Decision Protocol (FDP) for handling on-site surprises with a structured decision card, and a Field Leadership Behavior Inventory (FLBI) for coding how crew leaders actually behave on the job. All three tools were developed by the author specifically for this company. Here, the goal is to read all three interventions as chapters of one story about an organization learning to formalize itself.

Four types of evidence feed the analysis. Quantitative performance indicators (on-time rates, damage counts, resolution patterns, client satisfaction, among others) were pulled from the dispatch records, incident logs, and phone surveys maintained throughout the study period. Paper artifacts from the study period, including scoring sheets, decision cards, coding forms, and training outlines, document what was formalized and when. Informal interviews with the operations manager and four senior crew leaders, conducted at the end of each quarter, captured perceptions of what changed, what met resistance, and what surprised the people closest to the work. Interviews lasted 20 to 40 minutes, were not recorded, and were summarized in written notes within 24 hours. These conversations provide context, not primary data. Finally, a dated log of implementation events (when each tool went live, when training sessions ran, when procedures were revised) keeps the narrative tied to specific moments in the company's calendar.

SMM-ISO was constructed inductively from the case data. After all three interventions had been implemented and their results analyzed, the author reviewed the full sequence of changes and identified four distinct operational states that the organization passed through. Each state was characterized by its documentation level, measurement capability, decision-making structure, and feedback mechanisms. Comparison with established maturity models (Hammer, 2007; Van Looy et al., 2014; De Bruin et al., 2005) indicated that the observed stages align with recognized maturity progressions but differ in two respects: SMM-ISO begins at a lower baseline (no documentation at all, not incomplete documentation) and does not assume digital infrastructure at any stage. Generalizability is assessed in the Discussion section by comparing SMM-ISO's stage characteristics against conditions reported in informal economy research and identifying which features depend on this specific company and which are likely to recur across similar carriers.

## 4 Results

Table 2 lays out what the company looked like at each of the four stages. Four questions organize the comparison: what was written down, what got measured, who decided what, and how (if at all) information from the field made its way back into planning.

Before March 2024, the company had operated in its Ad Hoc state since its founding roughly a year earlier. Dispatch worked like this: the owner looked at the next day's bookings, mentally estimated how many people and which truck each job required, and called crew members to confirm availability. Experienced crew leaders received the harder jobs because the owner knew their capabilities from months of working together.

TABLE 2 SMM-ISO stage characteristics as observed at the case site

| Dimension | Stage 1: Ad Hoc | Stage 2: Documented | Stage 3: Managed | Stage 4: Optimized |
|---|---|---|---|---|
| Documentation | None. Knowledge in owner's memory and crew habits | Crew allocation rules written (JCS, CCM, WRP) | Field protocols added (SDD, EDM, CUP). FLBI coding sheet | Operations manual consolidated. Revision triggers defined |
| Measurement | Invoicing only. No performance tracking | Five job-level KPIs tracked | Deviation-level and shift-level metrics added | Cross-metric dashboards. Trend detection |
| Decision structure | The owner decides from memory. Crew leaders improvise | The owner uses JCS scores and CCM tables. Field still ad hoc | Crew leaders follow the EDM grid. FLBI feedback provided | Data triggers prompt review without waiting for quarterly cycle |
| Feedback | None systematic | Baseline metrics; period comparison possible | Deviation logs feed dispatch. FLBI feeds coaching | Continuous loop: field data update rules monthly |

*Source: compiled by the author from operational records and process documentation at Easy Moving LLC*

New crew leaders received simpler jobs or were paired with veterans. If the veteran was unavailable, the new leader took the hard job anyway, and quality outcomes became unpredictable. Knowledge lived in people's heads, and it walked out the door every time someone quit. Packing sequences, building access tricks, client management habits – none of it was written down.

ACMF arrived in March 2024 and coincided with the transition to Documented. For the first time, dispatch decisions followed written criteria. Job complexity scores took over from the owner's mental estimate. Lookup tables specified crew size and truck type for each complexity tier. A strain tracking protocol formalized what had previously been an informal favor: giving tired workers a lighter day. Pushback came from two directions. Experienced crew leaders felt that the scoring system reduced their status; a job they would have been assigned automatically now went through the same rubric as every other job. Several voiced concern that new workers would be sent to complex jobs "just because a number said so." At the same time, the scoring system appears to have surfaced problems that informal assignments had hidden. Fourth-floor walkups with narrow staircases, for instance, now received complexity scores that triggered larger crews, and damage rates on those jobs fell noticeably within two months, though other factors (seasonal shifts, crew learning) may have contributed.

September 2024 brought two changes at once, pushing the organization into the Managed stage. FDP provided crew leaders with a structured response to on-site deviations, and FLBI offered the operations manager a way to observe and compare how different leaders handled their shifts. Crew leaders accepted FDP relatively quickly because it solved a problem they recognized: uncertainty about whether they had the authority to adjust a job without calling the office. FLBI met more skepticism. Being observed felt like surveillance, and several leaders initially performed for the observer, reverting to old habits on unobserved shifts. Quarterly interview notes from two crew leaders captured this tension directly. One described the observer's presence as "having a teacher in the room." Adoption of FLBI-informed coaching took roughly three months to normalize, by which point the observer had become a familiar presence and the feedback conversations had shifted from evaluative to developmental in tone.

Optimized, the fourth stage, had barely begun at the close of the study period and should be understood as an aspiration supported by early signals, not a validated state. By February 2025, the company had started linking data across all three tools, but the process remained manual and incomplete. One episode illustrates what this looks like in practice. Damage claims spiked during a two-week stretch in January 2025. In response, the operations manager cross-referenced JCS scores, deviation logs, and FLBI observations for the affected shifts. Damage concentrated on high-complexity jobs assigned to crew leaders whose FLBI adaptive scores had dropped during cold-weather weeks, likely because tempo adjustment is harder to sustain when crews rush to finish before dark. At the Ad Hoc stage, the only available response would have been a post-hoc conversation with the crew leader. At Optimized, the data pointed to a system-level cause and suggested a system-level fix: adjusting JCS thresholds for winter months and scheduling a coaching session focused on cold-weather tempo management.

Table 3 compiles the performance metrics collected across the entire study period into a single integrated view, organized by the SMM-ISO stage during which each metric was first tracked.

Two patterns deserve attention. Performance indicators that came online at the Documented stage (on-time rates, damage, duration deviation, utilization) improved sharply and then plateaued; gains held through the Managed stage without further intervention. Indicators that appeared only at the Managed stage (resolution speed, escalation frequency, complaint rates) captured a different kind of problem, one that dispatch-level data could never see: how crew leaders respond when something goes wrong on site. FLBI scores added yet another layer by linking specific leader behaviors to the outcomes of individual shifts, something no prior metric at the company could do.

TABLE 3 Integrated performance metrics across SMM-ISO stages

| Metric | Stage 1 (Ad Hoc) | Stage 2 (Documented) | Stage 3 (Managed) | Direction |
|---|---|---|---|---|
| On-time completion (%) | 81.3 | 93.7 | Maintained | +12.4 pp |
| Damage claims (per 100 jobs) | 6.1 | 4.0 | Maintained | -34% |
| Duration deviation (min) | +47 | +14 | Maintained | -70% |
| Crew utilization (%) | 64.2 | 77.8 | Maintained | +13.6 pp |
| Crew-level resolution (%) | 38.2 | – | 67.4 | +29.2 pp |
| Response time (min) | 43 | – | 16 | -63% |
| Escalation rate (%) | 32.4 | – | 14.0 | -18.4 pp |
| Client complaints (per 100) | 5.4 | – | 3.2 | -41% |
| FLBI gap: on-time (pp) | N/A | N/A | 14.3 | New metric |
| FLBI gap: satisfaction (pts) | N/A | N/A | 0.8 | New metric |

*Source: compiled by the author from operational records at Easy Moving LLC. Dashes indicate metrics not yet tracked during that stage*

Figure 1 presents the SMM-ISO stage model as a horizontal timeline, mapping each stage to the intervention that triggered the transition, the organizational capability that resulted, and the barrier encountered at the boundary.

Barriers at each transition followed a recognizable pattern but took different forms. Reaching the Documented stage required overcoming the belief among experienced crew leaders that written rules were unnecessary because "I already know how to do this." Getting to Managed meant convincing the same people that being observed was developmental, not punitive. Progress toward Optimized is proving hardest because it requires connecting data streams that currently live in separate formats: JCS scores on paper, deviation logs in a spreadsheet, FLBI coding sheets in a filing cabinet. Without integrated software, the operations manager performs cross-referencing manually, a process that takes several hours per week and limits how quickly the organization can detect emerging patterns. Quarterly interviews indicated that this manual integration is perceived as the single largest bottleneck to sustaining the fourth stage.

## 5 Discussion

SMM-ISO's four stages map onto Hammer's (2007) maturity progression in broad outline but diverge in important ways at the lower end of the spectrum. Hammer treats "ad hoc" as a starting point that organizations move through quickly once they recognize the need for process discipline. At Easy Moving LLC, the Ad Hoc stage had been a stable equilibrium that had persisted since the company began operations in 2023. Even in its first year, profitability had not required a single written procedure. Profitability removed the urgency that Hammer assumes will drive organizations toward documentation. What eventually broke the equilibrium was a gradual accumulation of problems that became visible only once the company started measuring: inconsistent on-time rates, recurring

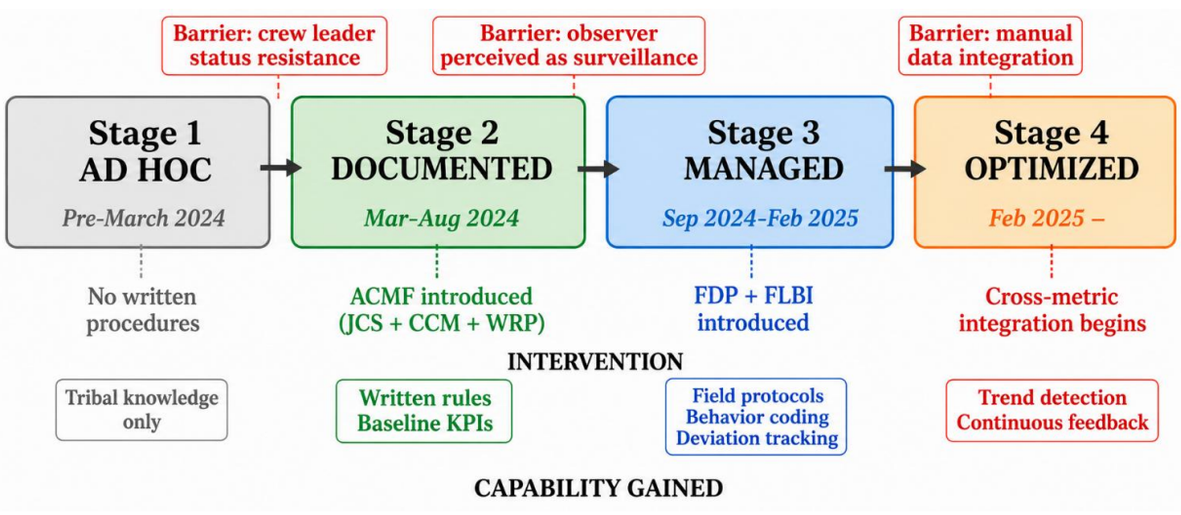


FIGURE 1 SMM-ISO Stage Model: standardization trajectory at Easy Moving LLC

*Source: Author's development*

damage on certain job types, and crew leaders burning out without anyone tracking workload distribution. Lewin (1947) would recognize this as a slow unfreeze, driven by a growing awareness that the old way was producing costs that had previously been invisible.

Sequencing turned out to matter more than the individual quality of any single intervention. ACMF could not have worked at Stage 3 without the baseline metrics it created at Stage 2. FDP depended on job complexity scores that ACMF had already standardized; without those scores, the Scope Deviation Detection checklist would have had nothing reliable to compare against on-site conditions. FLBI depended on both predecessors: observer coding is meaningful only when the organization already tracks outcomes (from ACMF) and deviation events (from FDP) against which leadership behaviors can be correlated. Attempting to introduce FLBI at Stage 1, before any documentation or measurement existed, would have produced behavioral data with no operational context to interpret it. Van Looy et al. (2014) predicted exactly this pattern: documentation and measurement capabilities must lead, because the control and improvement capabilities at higher stages require data that lower stages generate.

Kotter's (1996) eight-step model provides a useful diagnostic for what happened at each transition, though the steps played out in compressed and overlapping form. Creating urgency (step 1) happened differently at each stage. For the Ad Hoc to Documented transition, urgency came from the first month of JCS data, which showed the owner that 23% of jobs had been systematically under-crewed. For the Documented to Managed transition, urgency came from deviation logs revealing that one in three jobs involved an on-site surprise, and that crew leaders were handling these surprises with wildly different levels of competence. Building a coalition (step 2) proved difficult in a company with no middle management. The operations manager served as the sole internal champion, and buy-in from crew leaders came only after they experienced the tools in practice, not from any pre-launch communication campaign. Generating short-term wins (step 6) was the single most important accelerant. Crew leaders who initially resisted JCS scoring reversed their stance once they stopped being assigned to under-crewed high-complexity jobs. Leaders who resented FLBI observation softened once the coaching conversations helped them handle difficult clients more effectively. In both cases, behavioral change preceded attitudinal change, a reversal of the sequence that Kotter's model implies.

By (2005) noted that change management frameworks developed in large corporations may not transfer cleanly to small enterprises, and the present case is consistent with that concern. No five-person office can dedicate someone to the "change management team" that Kotter's model assumes. At Easy Moving LLC, the owner, the operations manager, and the author filled all change roles simultaneously while continuing to run daily operations. Formalization happened in the gaps between dispatching trucks and answering client calls, not in dedicated strategy sessions. The author's background in legal analysis, where procedural sequencing and documentation are standard professional habits, likely shaped the emphasis on written protocols that characterizes SMM-ISO. Bowen and Youngdahl's (1998) lean service framework proved more applicable at this scale because it does not require organizational infrastructure beyond the work itself: identify waste, remove it, and check whether the customer noticed. Failure demand, Seddon's (2005) concept, turned out to be the most intuitive entry point for explaining standardization to crew leaders. Telling an experienced mover "we are going to standardize your work" generates resistance, but reframing it as "last month we sent three crews back because the dispatch sheet was wrong, and this scoring system prevents that" gets a different reaction entirely.

Generalizability depends on which features of SMM-ISO are specific to this company and which reflect structural conditions common across informal service operations. Three features appear company-specific: the exact metrics tracked, the particular tools used (ACMF, FDP, FLBI), and the timeline of implementation. Carriers in different markets might track different KPIs, use different instruments, and move through stages faster or slower depending on size, seasonality, and workforce stability. Since the close of the observation period, the author has begun applying similar principles at a second carrier, where the same sequence (documentation before measurement, measurement before feedback) appears to be recurring, though formal evaluation remains pending. Four features appear structural and likely to recur. First, the sequential dependency between documentation, measurement, and feedback: informal service operations that try to improve without first writing down what they do are likely to face a similar measurement vacuum to the one observed at Stage 1 at Easy Moving LLC. Resistance rooted in expertise identity is equally predictable; experienced workers in informal trades may perceive formalization as a threat to the status that their tacit knowledge provides. Behavioral observation will meet a related but distinct barrier: in workplaces where it has never existed, a period of performative compliance may precede genuine adoption. Fourth, the manual integration bottleneck at the highest maturity level means that small companies standardizing on paper will eventually need digital tools to sustain cross-metric analysis, creating a technology threshold that paper-based formalization alone cannot cross.

Several limitations constrain interpretation. SMM-ISO was developed and tested at a single company, which means the model is preliminary. Its four stages may reflect idiosyncratic features of this particular owner, market, or workforce rather than a universal

progression. Interview data were informal and not recorded, which limits the depth and verifiability of qualitative findings. Stage 4 had barely begun at the close of the observation window, so claims about the Optimized stage rest on early signals and lack sustained confirmation. Concurrent implementation of FDP and FLBI at Stage 3 makes it impossible to isolate the contribution of each tool to Managed-stage outcomes. Finally, the author's dual role as researcher and participant in the intervention process introduces a reflexivity concern: observations and interpretations may be colored by investment in the outcomes.

## 6 Conclusions

A stage-based maturity model can describe and guide the standardization of an informal service operation, but the stages are not interchangeable. Twelve months of documented change at a single moving company suggest that documentation must precede measurement, because there is nothing to measure until processes are written down. Managed feedback, in turn, requires the data that measurement generates. Skipping a stage or reversing the order removes the infrastructure that the next stage depends on.

Four contributions distinguish this work. No existing maturity framework, including CMMI and Hammer's four-level model, addresses service operations that start with zero formal processes and zero digital infrastructure; SMM-ISO was built for that starting point as a preliminary model derived from a single organizational case. By integrating three author-developed interventions into a single organizational narrative, the study suggests that standardization in informal settings may hinge on building capabilities in the right sequence, and the choice of specific tool matters less than the order of implementation. Kotter's change model predicted that attitude shifts would drive behavior, but at this company the opposite happened: crew leaders changed how they worked first and changed how they felt about it later, only after seeing results on their own shifts. The four structural patterns surfaced in the Discussion (sequential dependency, expertise-identity resistance, performative compliance during observation, manual data integration limits) are not findings about one company; they are propositions that future research can test wherever informal service operations attempt formalization.

For practitioners, the message is concrete. Start with the decision that affects the most jobs, usually crew-to-job assignment, write it down, and measure what happens. Only after a baseline exists does it make sense to introduce field protocols or behavioral observation. All three interventions were implemented using paper tools, printed cards, and coding sheets at a combined training investment of roughly twelve hours per crew leader spread across the year. Software would accelerate progress toward the Optimized stage, which remains the least tested part of the model, but it is not a prerequisite for reaching Managed, and companies that wait for a software solution before starting are likely to remain at Ad Hoc indefinitely.

Five directions would extend the evidence. Multi-site replication across carriers of different sizes and in different geographic markets would test whether SMM-ISO's four stages describe a general trajectory or one that depends on the specific conditions of the Boston metropolitan market. Longitudinal tracking beyond twelve months would reveal whether Stage 4 stabilizes or whether companies cycle back to earlier stages under seasonal pressure or workforce turnover. Controlled sequencing studies, where different companies implement the same interventions in different orders, would provide direct evidence for or against the sequential dependency that this case observed but could not experimentally confirm. Adaptation to adjacent informal service sectors (residential cleaning, landscaping, small-scale construction) would test the model's portability beyond moving. If company owners could assess their own maturity level without bringing in an external observer, SMM-ISO would move from a research framework to an everyday diagnostic, and that self-assessment version remains to be built.

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