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AI Workflow Stack Map

A practical blueprint to build AI-enabled workflows for SMBs

Create repeatable, measurable AI workflows
that drive faster decisions and better
outcomes.

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AI Workflow Stack Map — Overview

This page introduces the end-to-end stack and how the layers work together. It emphasizes practical, non-technical thinking for leaders.

Key move Map one process today, then scale in small, controlled steps.

PRACTICAL CHECKLIST

- 01** Define the stack as a set of integrated layers that enable AI to act on business tasks end-to-end.
- 02** Keep scope small: pick one process, then expand in stages to manage risk.
- 03** Start with a practical, non-technical description for decision-makers.
- 04** Focus on outcomes: speed, consistency, and auditable decisions.
- 05** Prioritize data privacy, security, and clear ownership at every layer.
- 06** Build with existing tools before buying vendors to avoid chaos.
- 07** Align with business metrics and a plan to measure ROI.

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User Interface Basics

The UI is how people interact with AI-powered workflows. Design for clarity and a frictionless user experience.

Key move Keep the UI consistent across tools to reduce user training.

PRACTICAL CHECKLIST

- 01** Provide a single, consistent entry point (chat, dashboard, or form) for all tasks.
- 02** Offer guided prompts or templates to reduce guesswork for beginners.
- 03** Make context visible: recent actions, data sources, and current status.
- 04** Support quick updates and status checks without leaving the page.
- 05** Enable onboarding flows with basic tips and example scenarios.
- 06** Ensure accessibility and mobile-friendly design for on-the-go decisions.

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AI Model & Tooling

Choose models and agents that fit your tasks and data. Aim for a balance between capability and cost.

Key move Prototype prompts quickly; reject anything that requires excessive hand-tuning.

PRACTICAL CHECKLIST

- 01** Understand when to use a chat model versus a structured reasoning agent.
- 02** Consider Claude, ChatGPT, or other providers based on security and latency.
- 03** Embed domain knowledge when possible to reduce back-and-forth.
- 04** Balance on-demand computation with cost controls and rate limits.
- 05** Plan for retrieval-augmented workflows using your knowledge base.
- 06** Test prompts and flows with a small group before wider rollout.
- 07** Security-aware design: least privilege and audit trails.

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Company Knowledge Base

The knowledge base stores product data, policies, and FAQs. It powers consistent AI responses and accurate decisions.

Key move Keep a single source of truth; avoid data silos.

PRACTICAL CHECKLIST

- 01** Digitize key documents, policies, and common questions.
- 02** Organize content with clear categories and tagging.
- 03** Index content for fast search and retrieval by AI.
- 04** Maintain data quality with regular updates and version control.
- 05** Set access controls so teams only see what they need.
- 06** Track data origin and last updated timestamps.
- 07** Plan privacy and retention policies early in knowledge curation.

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Automation & Orchestration

Automation tools connect UI, AI, and data to run end-to-end tasks. Orchestration coordinates steps.

Key move Automate end-to-end, but keep human checks where needed.

PRACTICAL CHECKLIST

01 Choose a workflow engine: triggers, actions, and conditional paths.

02 Define clear inputs, outputs, and error-handling rules.

03 Leverage agent-like tasks for multi-step decision processes.

04 Use adapters to connect chat UI, databases, and apps.

05 Set retry logic and escalation when failures occur.

06 Monitor throughput and queue times to optimize flow.

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Data & Storage Foundations

Store structured data, documents, and embeddings securely. Design for scalable access.

Key move Document where data lives; map data flows end-to-end.

PRACTICAL CHECKLIST

01 Choose storage for different needs: relational data, files, and logs.

02 Use a knowledge base or vector store for AI search.

03 Back up data regularly and test restore procedures.

04 Implement data retention and archival policies.

05 Ensure encryption at rest and in transit.

06 Log data provenance to support audits.

07 Set performance baselines to plan capacity.

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Authentication & Permissions

Control who can start, view, or approve workflows. Use simple, scalable security.

Key move Always know who touched what data and when.

PRACTICAL CHECKLIST

- 01** Implement role-based access for teams and contractors.
- 02** Require strong sign-ins and multi-factor authentication.
- 03** Apply least-privilege principles to data and tools.
- 04** Log actions for traceability and audits.
- 05** Separate read/write permissions between production and staging.
- 06** Audit access and use alerts for unusual activity.
- 07** Plan incident response and data breach procedures.

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Human Approval & Monitoring

Human review steps add quality control. Monitoring shows health and ROI of AI workflows.

Key move Treat AI as a decision-support tool, not a black box.

PRACTICAL CHECKLIST

01 Embed human approval where risk or compliance matters.

02 Define clear SLAs for decision times.

03 Track key metrics: turnaround time, accuracy, cost.

04 Set up dashboards for real-time health checks.

05 Flag anomalies and trigger alerts to stakeholders.

06 Review AI outputs regularly to improve prompts.

07 Document lessons learned and update guidelines.

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Example Stacks for SMBs

Six practical stacks you can prototype quickly. Each maps layers to real-world tasks.

Key move Prototype one stack this week; measure impact after two weeks.

PRACTICAL CHECKLIST

- 01** Customer support: chat UI, AI model, knowledge base, automation, ticketing database, agent reviews.
- 02** Sales follow-up: automated emails, CRM data, prompts to draft messages, scheduling, human approval for offers.
- 03** Document review: document uploader, AI summarization, knowledge base cross-check, workflow approvals, storage in docs.
- 04** Internal knowledge assistant: employee portal UI, retrieval, company KB, automated answers, logging.
- 05** Marketing content workflow: content draft via AI, review, approved publication, CMS storage.
- 06** Finance approval workflow: budget requests, AI drafting, data checks, manager sign-off, archival.

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