Using AI to automate and optimise retail business processes

A methodology and framework for AI adoption

How AI will drive benefits in business

The investments in AI only make sense if businesses adopt it en masse to improve profits and productivity. Yet there is still no clear, easy-to-follow methodology for how a business should adopt AI to drive benefits at ***pace and scale.*** Markets are betting on a fantastic return on AI investment, hence the high valuations of AI companies but that bet needs a credible path to delivery.

This paper describes what a ***methodology looks like***, based on early implementation examples, and lays out what businesses need, to build a real AI strategy.

A process view of businesses

Most businesses are facilitators of processes running from suppliers to customers and back. We used to describe them as processes that enable going from 'quote to cash'. In retail, for example, there are only 14 such processes. When you look at them it is clear, processes such as assortment planning, buying, stock intake management, distribution of stock, pricing, and customer engagement can all benefit from AI agents. But how?

Any process engineer will tell you that a business's efficiency and profitability comes down to how joined-up, digital, automated and optimised its processes are, the premise behind the process re-engineering boom of the 1990s. That boom petered out because there was no easy way to automate or optimise processes: most businesses were hardwired with 20th-century ***'systems of record'***, where people acted and systems merely recorded and fed back information for future decisions.

Flying illustrates the shift. In the 20th century, pilots flew the plane by hand, with a flight recorder capturing what happened so lessons could be learned after the fact. In the modern era, planes fly largely on autopilot, directed by intelligent agents; and the same shift is coming to driverless cars, and industries such as manufacturing. In that context Agentic AI is a game changer.

Processes on autopilot

AI's opportunity is to create ***driverless business processes***: fully automated and optimised, run by AI agents. Automation lifts productivity; Optimisation lifts profitability. AI agents need to sit on top of existing systems and processes, helping automate and orchestrate them. We cannot replace the existing systems wholesale, so we need to fill the gaps 20th-century systems left behind.

Eliminating spreadsheets

A CEO recently told me his business was effectively run by spreadsheets. Spreadsheets are a symptom of broken processes: someone extracts data, models a decision by hand, then reloads it into the system. A merchandiser pulling sales and stock data to calculate allocations manually, before feeding the result back into an allocation system, is a textbook example.

Intelligence that should live in the process has instead been outsourced to a person with a spreadsheet.

AI intelligence starts with mapping each process, finding the breaks, manual steps and poor decisions, and only then designing the AI to replace them.

itim is building a clear 'methodology' and 'framework' (itimAIQ) for designing and building AI agents to automate, optimise, and create driverless retail business processes.

Data and process: getting the order right

There's a myth that AI adoption starts with data. It doesn't. Data and information are outcomes of processes, not the starting point. You cannot re-engineer a process by interpreting its data alone. Benefits come from automating and optimising the process itself; that means starting with an engineering-level understanding of the process, not its data exhaust.

That said, process re-engineering may not always be the right starting point either. As technology evolves, many inherited processes would never be designed the same way today. Amazon, Uber and Airbnb showed that digital transformation can mean reinventing an industry rather than digitising the old one. The same may hold for AI. New business models we haven't yet imagined will emerge. But for most existing businesses, applying AI will require re-adopting a process re-engineering mindset.

The construct of AI agents

What architecture makes mass adoption possible? LLMs provide reasoning but aren't industry-specific, even common words like 'product' or 'customer' carry different meanings across companies, a recipe for hallucination. ***Context Management Platforms*** (CMPs) solve this: they give agents access to industry and company-specific vocabularies, data dictionaries and transaction data, whilst controlling the data shared with the LLM itself.

This matters because businesses learned the hard way, in the e-commerce era, sharing data with third parties (Google Analytics, notably) allowed those parties to monetise it, at the data owner's expense. CMPs also make agents LLM-agnostic and provide the audit trail needed to trust an agent's decisions.

Around this sits a growing library of tool sets; rules engines, optimisation and statistical algorithms, purpose-built neural nets, workflow orchestration, the components needed to build agents that automate and optimise real processes. As with gene therapy, which needed gene-editing tools before it could be applied, AI adoption needs these methodologies and tool sets alongside the LLMs themselves.

Leadership awareness

Every process needs to be assessed for how it could be automated, optimised and run 'driverless'. Yet many CEOs are process-unaware: it's rare to find one with engineering drawings of their key processes on their desk, and many don't understand how their business operates at that level.

Adopting AI at scale means pairing ***process engineers*** with ***AI agent developers*** on every process: the process engineer maps it; the AI developer builds agents to close the gaps and orchestrate automation. Industry-wide libraries of reusable agents may follow, though as with earlier 'best practice' efforts, companies will keep tinkering to preserve competitive differentiation.

The hype around AI often forgets that laying new technology over old business models still requires a methodology for training and deploying agents across a vast landscape of businesses. Without one, large-scale adoption will be slow, limited and expensive.

This paper represents how large-scale AI adoption might happen. We hope it helps businesses build the right strategy and capabilities to take advantage of the AI revolution.

Business benefits

We anticipate the following business benefits. Reduction in head office headcount, reductions in IT costs as AI agents replace some legacy systems, improvements in business outcomes such as increases in sales and improvements in profits. What we're learning is that not all processes are equal. Improvements in some have a disproportionate impact on sales and profits.

itim's heritage - 30 years of process, information and systems engineering - now applied to AI

Origins in Engineering Methods:
In the mid-1980s, itim's founders began applying engineering methods to large-scale enterprise IT systems, pioneering the 'Inforem method' which used engineering drawings as the foundation for systems development. This approach was part of the broader 'Information engineering revolution.'

Process Modelling Leadership:
By the late 1980s, itim developed one of the earliest methodologies for modelling business processes, contributing to the process and business re-engineering boom of the 1990s. itim Consulting was established in 1993 to promote these methods across industries such as banking, leisure, travel, and retail.

Technological Innovation:
In the 1990s, itim created CASEwise Ltd, enabling computer-aided drawings (CAD) for business process, functional, and data models. This led to the development of process-centric application platforms, ***notably the itim-UNIFY platform for retail***, with a focus on both process and customer centricity.

Current Focus:
Today, itim positions itself as a company of systems and process engineers, especially in retail. We call ourselves 'retail engineers.'

AI Adoption:
With the rise of AI, itim has revisited its engineering roots to develop methodologies for deploying AI in business. Early AI applications, such as ***Profimetrics AI*** focused on price and stock optimisation, are examples of success. Building on this experience, itim created the ***itimAIQ framework and methodology*** to guide AI deployment, aiming to automate and optimise business processes that legacy systems have left behind. The itimAIQ framework is an example of how itim leverages its heritage in systems engineering to structure AI adoption, ensuring that AI is used to fill gaps in existing business processes for greater efficiency and profitability.

Commitment to Methodology:
This paper emphasises itim's tradition of creating structured frameworks and methodologies to support technological revolutions, now applied to AI adoption.

If you enjoyed reading this, get in touch for a 30 minute detailed presentation.

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