

E-book

When a Standard ERP Falls Short:

How to Transform Critical Systems Without Interrupting Operations

wakapi Software
Services &
Solutions



Index

03	Who We Are
03	The Client
03	Purpose of This eBook
05	Chapter 01 Context and Problem
06	Chapter 02 The Challenge
07	Chapter 03 Measurable Impact
09	Chapter 04 Why They Chose Wakapi
10	Chapter 05 Diagnosis and Discovery
11	Chapter 06 Solution Design
12	Chapter 07 Team and Methodology
13	Chapter 08 Optimizing Work with Artificial Intelligence
14	Chapter 09 From Legacy to Modern
15	Chapter 10 Phased Implementation
16	Chapter 11 Key Features of Wakapi's Solution
17	Chapter 12 Results and Impact
17	Chapter 13 Lessons Learned
18	Chapter 14 Looking Ahead
19	Chapter 15 Budget, Billing, and Payments
20	Conclusion



Who We Are

Wakapi is a software services and solutions company founded in 2006 with the mission of delivering world-class software outsourcing services to clients around the globe.

Over nearly two decades, we've built long-lasting relationships with a wide range of organizations, from fast-growing startups to industry leaders such as Thomson Reuters, Dollar General, and Subway.

The Client

Our client is a healthcare institution for public employees, providing comprehensive medical and social care to members and their families. Their model spans prevention, treatment, and rehabilitation.

Although linked to the public sector, the organization operates much like a private prepaid health plan, with the main goal of ensuring the highest level of health and well-being for its affiliates.

Purpose of This eBook

This eBook demonstrates that when a standard ERP fails to adapt to an organization's unique needs, choosing a custom-built system is neither impossible nor excessively costly.

At Wakapi, we've proven that we can successfully guide organizations through these transformations in industries where operations exceed the limits of conventional solutions. And we do it in a realistic timeframe, balancing the continuity of legacy systems while building and rolling out the solution that truly fits.



“Digital transformation is all about building solutions that respect the reality of each organization and help them operate with clarity, control, and agility.

If anything in this e-book sounds familiar, or if your current system is limiting your growth, let’s talk.

Many companies discover that with the right partner, a custom solution is not only possible: it becomes a turning point for their business.”

Mauricio Barzola

CEO, Wakapi Software Services & Solutions



Contact

mauricio.barzola@wakapi.com

Schedule a meeting with me by scanning the QR or [clicking on this link.](#)

Context and Problem

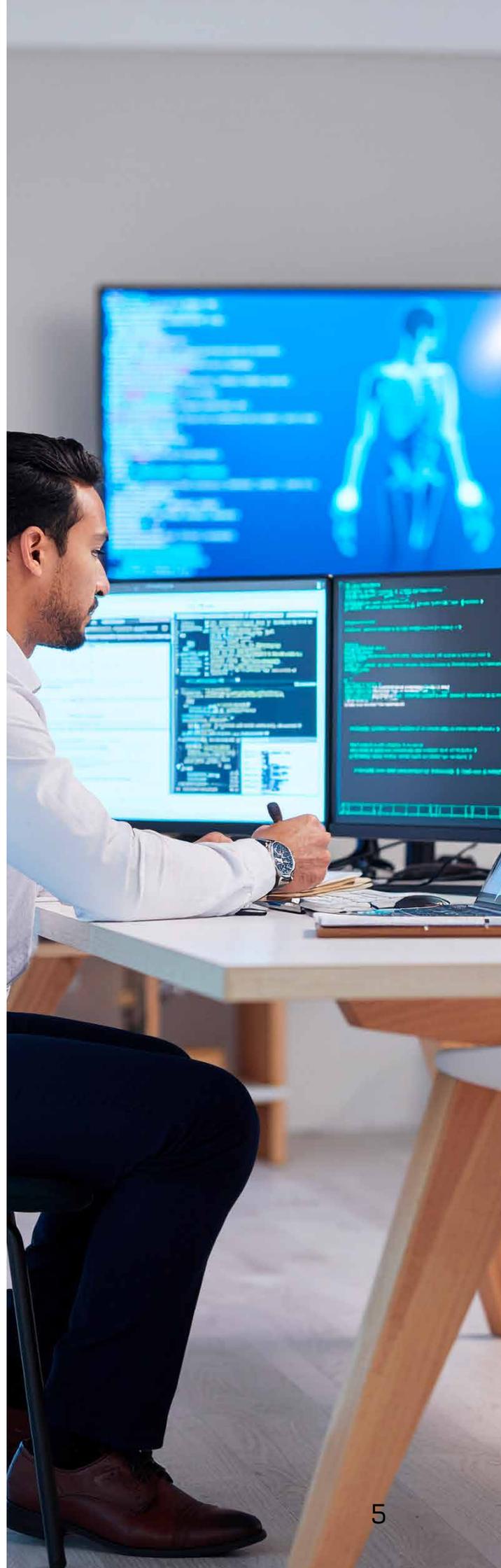
Our client is a university health institution with more than 70 years of history and 80,000 members. While its legacy system had supported operations for decades, it was no longer able to handle the complexity of modern processes.

At first, the organization tried to migrate to an off-the-shelf ERP solution. The expectation was that a standard business management platform could address their challenges. It quickly became clear that this approach would not work. The structure of the institution and the wide variety of services it provided simply did not fit into a pre-packaged product.

The ERP lacked critical business rules. It could not adapt to different income categories that required compliance with specific fee regulations. It did not cover unique processes such as managing family groups, integrating with pharmacies, or handling the specialized workflows of medical care and affiliate billing.

The client also operated under a very distinctive model. It managed affiliates' assets by offering current accounts tied to salaries and processing all credit and debit movements. At the same time, it acted as a health provider with complex rules for medical services, validations, and settlements. On top of this, it managed its own internal pharmacy with stock control, medication dispensing, and full traceability.

None of these dimensions could be fully supported by a standard ERP. As a result, the organization faced duplicated information, frequent inconsistencies, and high risks of operational errors.





Chapter 2

The Challenge

The challenge was not only technical. It was also conceptual. Traditional ERPs are designed to follow standard business processes. Our client combined three very different operational dimensions.

- Administration of current accounts through salary deductions
- Operation as a prepaid healthcare provider managing agreements with medical professionals and service providers
- Management of an in-house pharmacy with unique inventory and stock needs

This hybrid model was impossible to solve with either their outdated ERP or any off-the-shelf product.

The legacy system lacked automation of key processes. It generated recurring billing errors. It did not have built-in validation controls. It forced administrative staff to enter the same information repeatedly across multiple platforms. This led to data duplication, credit notes that did not meet government regulations, and no traceability in affiliate transactions.

The direct consequences were severe. Administrative employees spent countless hours solving inconsistencies. Healthcare providers faced constant payment delays. Affiliates did not have access to clear information or reliable digital processes.

The bigger issue was strategic. Leadership lacked the timely and accurate insights needed for decision-making. It was evident that the organization needed a custom-built solution powerful enough to sustain critical operations and flexible enough to evolve with future demands.

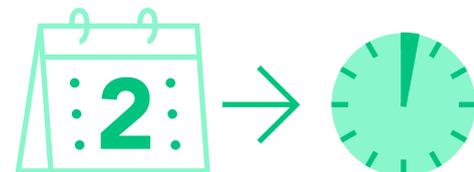
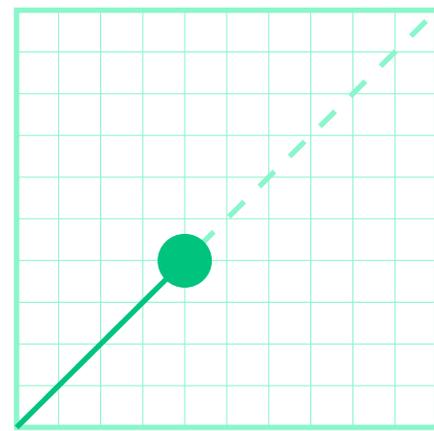
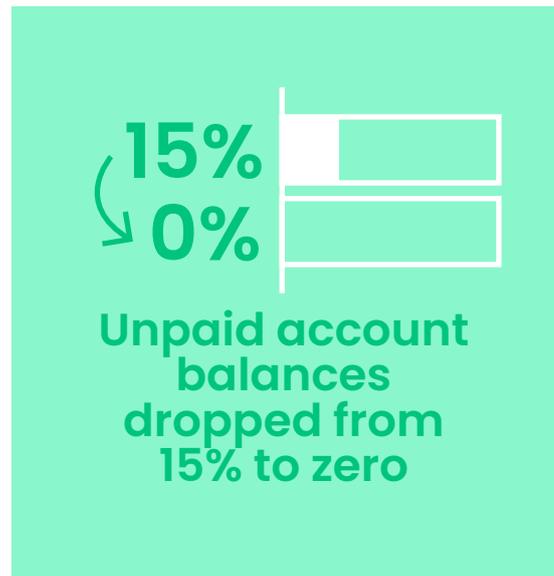
Measurable Impact

Before diving into how the solution was designed and implemented, it is important to highlight the results that made the real difference. The numbers speak for themselves, showing how Wakapi's technology not only solved inefficiencies but redefined the way the institution operates.

The transformation went far beyond improving the user experience. It generated measurable results that strengthened management and boosted efficiency across every area of the organization.

Thanks to Wakapi's custom-built solution, key performance indicators showed a remarkable evolution:

- Unpaid account balances dropped from 15% to zero. The previous system allowed deactivated or suspended members to continue making pharmacy purchases or issuing medical orders that were charged to their accounts but never paid. The new system automatically detects every inactive member and blocks account usage once a preset limit is reached.
- Debt recovery increased by 40%. Automated validations and reconciliations accelerated collection processes and reduced human error.
- File generation for collections went from two days to just a few minutes. Full digitalization of treasury operations eliminated delays and duplicated tasks.

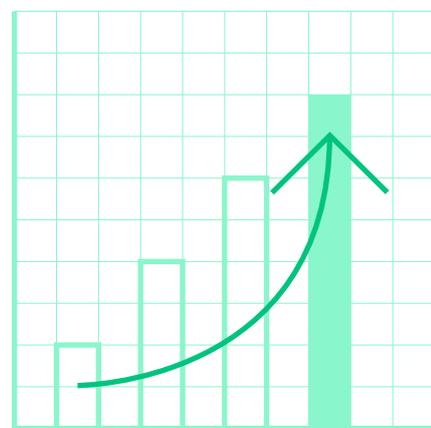


File generation for collections went from two days to just a few minutes

- Significant reduction in unresolved claims related to current accounts and active debts. Staff serving members can now provide complete and traceable details for every transaction.
- Installment processing time dropped from eight hours to seconds. What once took an entire night now runs automatically in real time.
- Net Promoter Score rose from 2 to 8. Member satisfaction and trust grew exponentially, proving the positive impact of modernization.
- Treasury and reconciliation processes became fully transparent.
- Eighty-five percent of administrative tasks were automated.
- Automatic notifications were added for due dates and document updates.
- Implementation had minimal operational impact. Thanks to pre-production simulations and robust ETL processes, the transition was seamless and disruption-free.



Installment processing time dropped from eight hours to seconds



Net Promoter Score rose from 2 to 8

These results reflect more than technological efficiency. They mark a cultural shift. The institution moved from reacting to anticipating, from operating with limitations to managing with vision, control, and agility.



Eighty-five percent of administrative tasks were automated

Why They Chose Wakapi

After confirming that standard solutions could not cover their unique processes, the client realized a custom-built development was the only way forward. Making this decision is never simple. Starting from scratch requires commitment and trust. Yet it was the only way to align technology with the client's reality.

In that context, they chose Wakapi as their strategic technology partner. The decision was supported by three core factors.

- Wakapi's proven expertise in digital transformation across highly regulated and complex sectors such as healthcare, retail, and food services. This guaranteed deep understanding of processes where compliance and reliability are non-negotiable.
- Our ability to collaborate closely with internal teams using agile methodologies. This approach ensured rapid progress, constant validation, and transparent communication throughout the project.
- Our explicit commitment to operational continuity. The legacy system had to remain stable while the new platform was being designed and rolled out.

From the very first meetings, the relationship was built on trust. The client needed absolute confidence that operations would not be disrupted. This was more than replacing a piece of software. It was about ensuring a seamless transition with a focus on quality, security, and user adoption.

To make this possible, Wakapi proposed a progressive modular development strategy. Each milestone was tied to a specific business unit. Only after validating performance were legacy modules replaced. This incremental approach guaranteed stability and minimized risk.

Wakapi became more than a provider. We became a partner who combined technical capacity with a methodology that balanced innovation and security. This shared vision was key to the project's success.

Diagnosis and Discovery

The first step was a complete diagnosis of the client's current situation. Wakapi conducted in-depth interviews with internal users, reviewed administrative workflows, and analyzed historical data. The goal was to create a clear map of inefficiencies, risks, and limitations.

Some of the most critical findings included:

- Manual processes without validation, particularly in billing and collections
- Unstable or incomplete integrations with third-party systems such as financial institutions, healthcare providers, and regulators
- Duplicated data and lack of traceability in affiliate information

This analysis did more than highlight current problems. It opened the door to designing a modern architecture that solved inefficiencies at their root instead of patching an obsolete system.

Based on this discovery, Wakapi proposed a new model designed to be modern and scalable. Key principles included:

- API-driven architecture for stable and secure integrations with external actors
- A fully redesigned database to guarantee integrity and data quality
- UX and UI strategies that elevated the experience for administrators, providers, and affiliates

The discovery process also helped define priority flows for the first development stage. Affiliate management, current accounts, and treasury were identified as the heart of operations.

Just as important, this stage aligned expectations with the client. They gained a clear picture of the real scope of the challenge and the tangible value of building a solution that solved the inefficiencies from the ground up.



Chapter 6

Solution Design

The solution was designed under one clear principle. It had to be modular, scalable, and user centered. It needed to integrate multiple processes while coexisting with the legacy system during the transition.

The architecture was structured in four main layers.

- Responsive web front end built on React and Next.js. This gave employees, providers, and affiliates intuitive and secure access from any device.
- REST API acting as the well-defined contract between the interface and business services. This ensured interoperability and future evolution.
- Back end on Node.js with NestJS. This enterprise-level TypeScript framework provided modular structure, controllers, services, and interceptors. Native dependency injection, guards, and pipes supported scalability and maintainability. The framework is widely adopted in corporate environments, reinforcing the robustness of the chosen stack.
- Relational database on PostgreSQL. Fully redesigned schemas guaranteed consistency, traceability, and integrity. PostgreSQL offered ACID transactions, JSONB extensibility, advanced indexing, and high performance, making it ideal for critical systems.

The API-first approach allowed secure integrations from the start. UX and UI design focused on user-friendly interfaces, automated processes, and real-time notifications.

This cloud-native infrastructure, deployed in containers with orchestration, ensured resilience and scalability. The unified JavaScript and TypeScript stack created consistency between front end and back end. It accelerated delivery, streamlined onboarding of developers, and supported long-term growth.

The result was more than a system. It was a digital platform ready for future integrations with state entities, financial organizations, and healthcare providers.

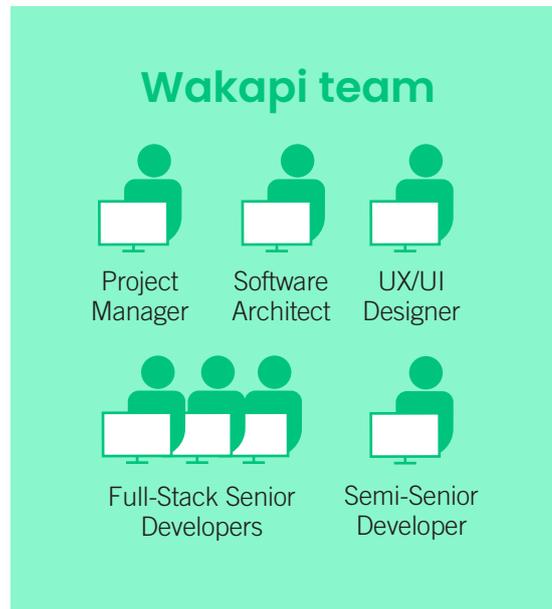
Team and Methodology

Wakapi structured the project under an agile methodology with iterative deliveries and frequent demos. This made it possible to validate progress early, adjust functionalities, and keep the solution aligned with real operational needs.

The team evolved over the first two years of development to adapt to changing requirements and deadlines. In general terms, the composition was as follows.

Wakapi team

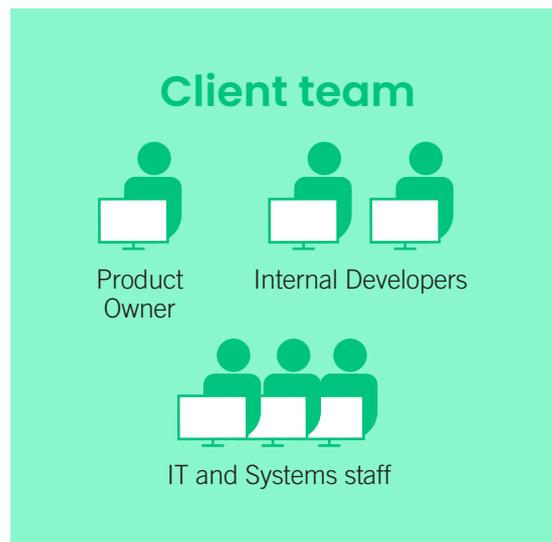
- Project manager overseeing communication, roadmap, and risk management
- Functional analyst converting business needs into technical specifications
- Part-time software architect responsible for technology stack and design decisions
- Three senior full-stack developers implementing key modules
- UX and UI designer improving usability and adoption

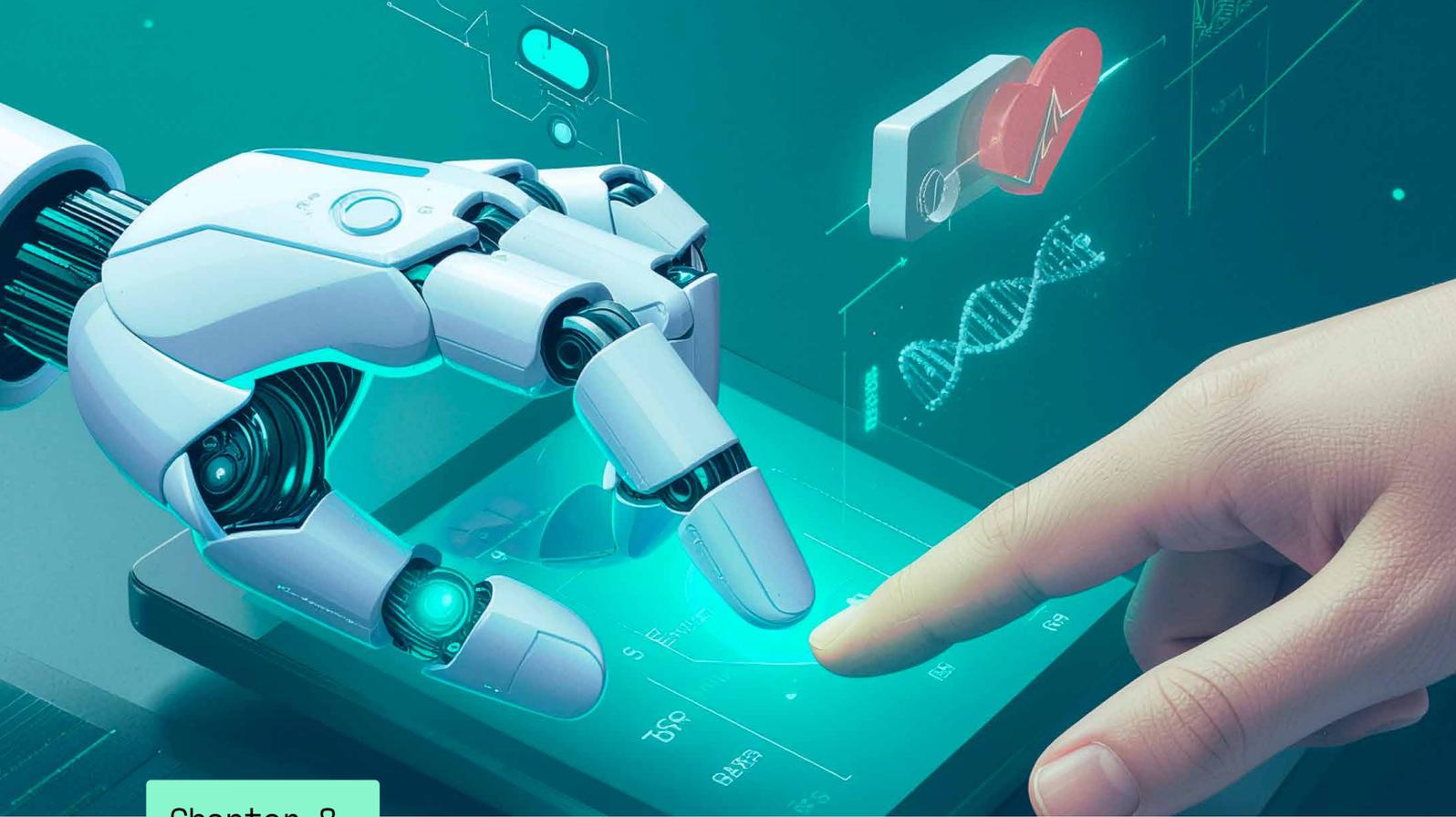


Client team

- Product owner validating each delivery
- Two internal developers integrated into Wakapi's team
- IT and Systems staff actively involved in migration and validation

This collaborative model accelerated the project and strengthened knowledge transfer. By the end, the client had the capacity to maintain and evolve the solution independently.





Chapter 8

Optimizing Work with Artificial Intelligence

Wakapi's strategy went beyond modern architecture and agile methodology. We also incorporated artificial intelligence tools that streamlined development and optimized budget allocation.

Developers used AI in practical ways across multiple stages. Autocomplete suggestions reduced time spent coding. AI explanations made it easier to understand snippets written by other team members. Automated bug detection accelerated debugging and quality assurance.

This meant the team could focus on building new features instead of repetitive low-value tasks. The result was faster delivery and lower costs without sacrificing quality.

AI also opened opportunities for the future. While this project focused on daily productivity, more advanced use cases were identified, such as agents capable of generating code automatically.

From Legacy to Modern

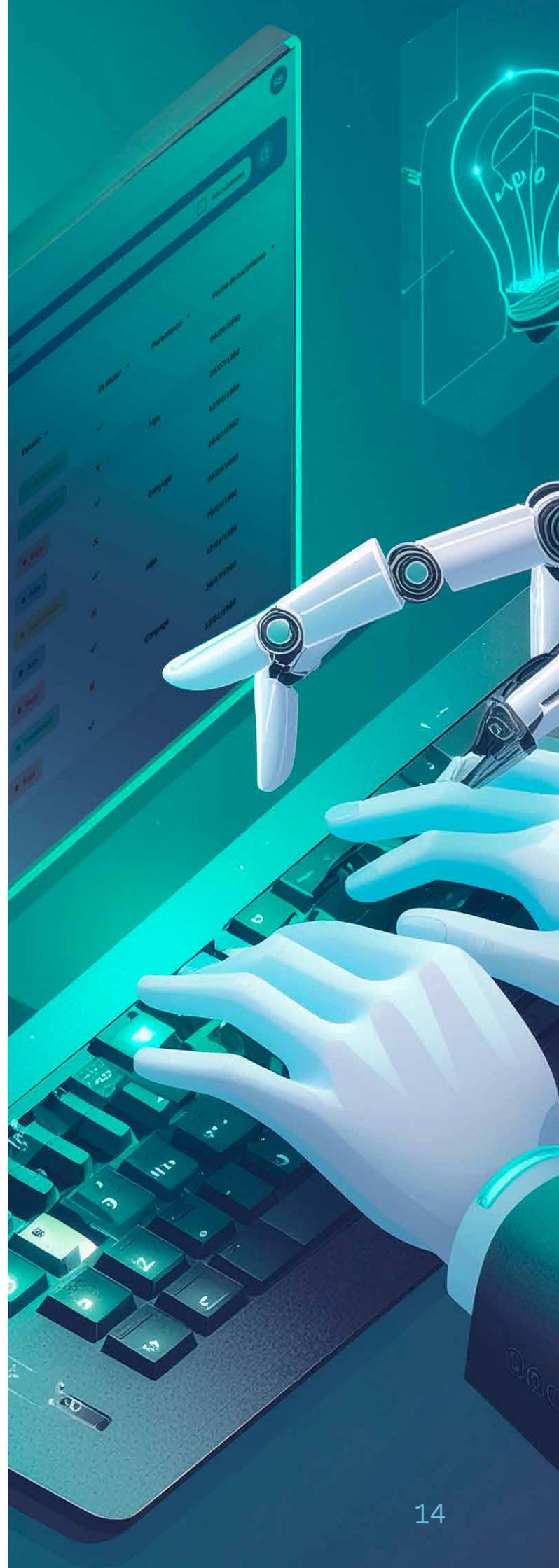
One of the greatest challenges was ensuring operational continuity. The legacy system had to keep running while Wakapi's new solution was developed and deployed in stages. Shutting down operations was not an option. Affiliates, providers, and finance departments all depended on uninterrupted processes.

The strategy was to create a hybrid coexistence. New modules were built while communication bridges and APIs kept critical data synchronized between both systems. Current accounts, collections, affiliate data, and related documents all flowed seamlessly across environments.

Data migration was handled progressively. ETL processes with automated validation guaranteed that historical information moved accurately with no duplication or inconsistencies.

Security and compliance were also reinforced. The new design incorporated billing validations, affiliate business rules, and internal audit mechanisms aligned with regulatory standards.

This hybrid model allowed the client to operate normally while adopting the new solution step by step. The transition felt less like disruption and more like natural evolution.



Phased Implementation

Wakapi's solution was implemented progressively. Each phase delivered real value while moving closer to the complete replacement of the legacy ERP. Regular demos validated technical progress, trained staff, and collected direct feedback from end users.

Demo 1

Affiliates module

Management of affiliates, family groups, and documentation. Validated business rules and established security foundations.

Demo 2

Current accounts

Movements and notifications went live. REST endpoints were versioned for backward compatibility. JWT-based authentication with role control ensured granular access.

Demo 3

Treasury and external interactions

Enabled treasury and collections. Initial integrations with electronic services for tax collection and validation.

Demo 4

Payments

Affiliates could simulate payments through the online platform. Integrations with electronic payment systems validated the full collection flow.

Demo 5

Consolidation

Final adjustments improved automation, consistency, and performance. Real-time notifications and debt reports increased transparency for affiliates.

This step-by-step approach built trust. Each phase solved real problems, reduced dependency on the legacy system, and smoothed adoption.



Chapter 11

Key Features of Wakapi's Solution

The final solution went far beyond replacing the legacy ERP. It became a comprehensive management platform built for the client's unique complexity.

- Process automation reducing manual work in collections, quota calculation, reconciliations, and reporting
- Treasury and collections management with validation and traceability across multiple payment methods
- Centralized current accounts for affiliates and staff with detailed reporting and transparency
- Affiliate and family group management with business rules covering new memberships, retirements, guardianships, and special benefits
- Real-time notifications on account changes, pending payments, and debts
- Data cleansing using ETL processes that eliminated duplication and inconsistencies
- Data architecture and reporting offering clear, reliable, and auditable management information
- API-first interoperability with external entities including regulators, financial services, and healthcare providers

By combining automation, data quality, and interoperability, Wakapi delivered a platform that is modern, secure, and ready to scale.

Results and Impact

The impact was immediate and measurable.

- Efficiency gains through automation reduced human error and freed up staff hours. Quota calculations and reconciliations went from hours to minutes.
- Improved data quality through migration and cleansing produced unified and reliable records, boosting accuracy in billing and reporting.
- Regulatory compliance was reinforced with automated validations in billing and collections, lowering the risk of penalties.
- Affiliate and employee satisfaction increased thanks to transparent accounts, real-time updates, and faster processes.
- Scalability was unlocked with a modular, API-driven design ready for future growth.

Beyond solving technical issues, the platform transformed how the organization operated. Affiliates, providers, and staff regained trust in the system and in the institution's processes.

Lessons Learned

The project provided valuable lessons for digital transformation in complex environments.

- **Innovation must balance with stability.** Legacy systems cannot be shut down overnight. APIs and integrations were essential to maintaining operations during the transition.
- **Close collaboration with the client's teams** accelerated adoption and ensured the solution addressed real needs.
- **Change management is as important as technology.** Training, communication, and agile iteration minimized resistance.
- **Scalability must be designed from the start.** API-first architecture positioned the system for future evolution.
- **Data quality is critical.** ETL processes proved that without clean and reliable information, no system can succeed.

The project succeeded not only because of technology but because strategy, agile methodology, and organizational change were managed together.



Chapter 14

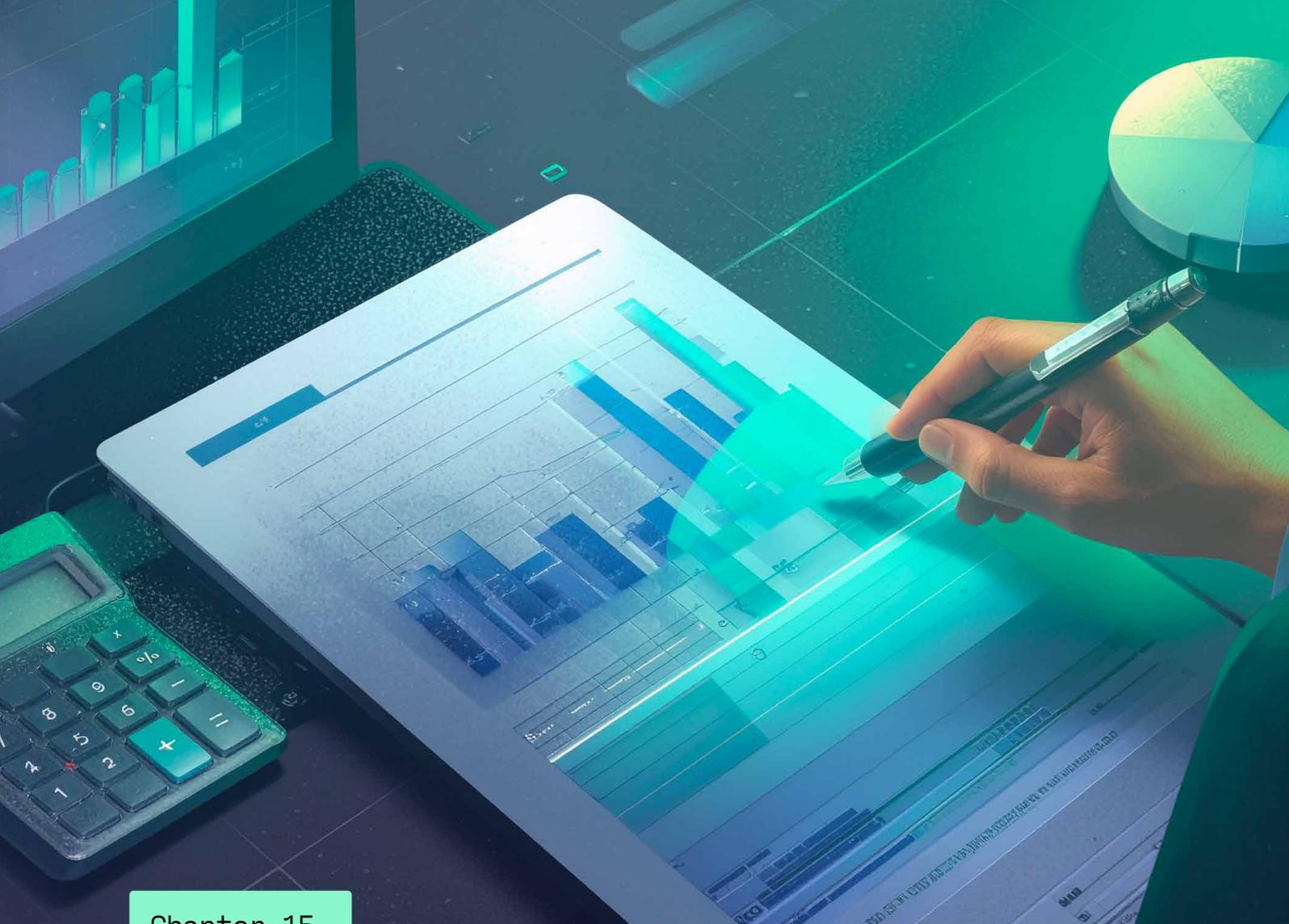
Looking Ahead

The Wakapi solution was never conceived as a one-time project. It was designed as a living platform.

After deploying core modules like affiliates, current accounts, and treasury, the roadmap included:

- A full pharmacy module with stock, dispensing, and traceability linked to affiliate accounts
- Online medical appointments with automatic validations and reminders
- A contracts and providers module that automated settlements and reduced errors
- Expanded external integrations with regulators and financial entities

The project proved that legacy systems can evolve into modern, modular, and scalable platforms without disrupting daily operations. And beyond healthcare, it showed that Wakapi can replicate this model in any industry where standard ERPs fall short.



Chapter 15

Budget, Billing and Payments

Financial planning was essential to ensure the project's viability. Wakapi developed a transparent and predictable budget aligned with the client's financial expectations and long-term objectives.

Costs were carefully analyzed, and the team structure was tailored to match the available budget while maintaining technical excellence. The use of AI-assisted development tools increased efficiency, reduced delivery times, and optimized overall costs. The implementation plan was organized across three years to provide stability and visibility.

Billing was structured as consecutive monthly installments tied directly to project milestones. Each payment was linked to tangible, verifiable deliverables, ensuring clarity and confidence at every stage.

This financial model provided the client with full transparency regarding investment, timelines, and value delivered. It also enabled Wakapi to maintain a focused, stable, and specialized team dedicated to the project from start to finish.

Conclusion

This case represents a challenge shared by many organizations. Legacy systems and standard ERPs often cannot meet the demands of real business operations. In complex, regulated, high-impact environments, the only viable path is a custom-built solution.

Wakapi guided the client from initial diagnosis to full production. Each stage was driven by technical excellence, agile methodology, and a collaborative spirit. The result was a platform that combines efficiency, security, and scalability while ensuring uninterrupted operations.

Digital transformation is not just about replacing technology. It is about designing solutions aligned with the unique reality of each organization. Wakapi positions itself as a strategic partner for companies ready to go beyond standard systems and build the future of their operations.



wakapi Software
Services &
Solutions

www.wakapi.com  [wakapi](https://www.linkedin.com/company/wakapi)  [be.wakapi](https://www.instagram.com/be.wakapi)