

CASE STUDY

Hartwell Mechanical Services Quote System

Turning static PDF quotes into self-service, revenue-accelerating experiences



100% Quote Accuracy	50/50 Automated Invoicing	Real-time Price Calculation
-------------------------------	-------------------------------------	---------------------------------------

Executive Summary

Hartwell Mechanical Services needed to move beyond static PDF quotes that required manual follow-up, phone calls to confirm selections, and error-prone re-keying of data into their CRM. Their sales team was spending hours per week on administrative quote processing instead of selling.

I designed and built a complete Custom Quote Creation Platform that transforms HubSpot-generated quotes into self-service web experiences. Hartwell's customers can now view mandatory services, toggle optional add-ons, see prices update in real-time, and formally accept their quote, all from a single branded page. On acceptance, the system automatically creates CRM records, generates invoices with a 50/50 deposit-balance split, and links everything together without any manual data entry.

The Problem

What was broken

- **Static quotes:** Quotes were PDF-style pages with no interactivity. Customers had to phone or email to confirm which optional services they wanted.
- **Manual data entry:** After a verbal acceptance, the sales rep had to manually update the deal, create records for the accepted items, and generate invoices by hand.
- **No audit trail:** There was no timestamped, system-level record of what the customer agreed to, leading to disputes about scope.
- **Invoicing lag:** Invoices were created days after acceptance, delaying cash collection and occasionally containing wrong amounts.

The Solution

I built a two-part system: a custom HubSpot CMS quote template for the customer-facing experience, and a backend API that handles business logic, CRM synchronisation, and invoice automation.

How it works for the customer

1. They receive a branded, personalised quote page with their name, job address, and a breakdown of services.
2. Mandatory services are pre-selected and locked. Optional add-ons have checkboxes they can toggle.
3. As they select or deselect items, the subtotal, GST, and total update instantly on screen.
4. They tick the agreement checkbox, click Submit, and the quote is formally accepted.

How it works behind the scenes

1. The backend checks for duplicate acceptances (prevents double-submission).
2. An "Accepted Quote" record is created in HubSpot with the full details and timestamp.
3. Each selected product is stored as a "Selected Product" record tied to the accepted quote.
4. Two invoices are auto-generated: a 50% deposit (due immediately) and a 50% balance (due on project completion).
5. All records are linked to the deal, contact, and company in HubSpot via associations.

Key Features

Feature	Business Benefit
Interactive line items	Customers self-select services without phone calls or emails
Locked mandatory services	Base revenue protected; prevents accidental removal of required items
Real-time pricing	No pricing confusion; customer always sees the accurate total
Duplicate prevention	Cannot accidentally accept the same quote twice
Auto invoicing (50/50)	Deposit invoice generated instantly on acceptance; balance tied to completion
Full CRM sync	Every selection, timestamp, and amount is in HubSpot for reporting and auditing
Accepted quote display	Returning visitors see a read-only confirmation of what was accepted and when

Results

- **Zero manual data entry** on quote acceptance. CRM records, product line items, and invoices are created automatically.
- **Faster cash collection:** deposit invoices are generated and sent within seconds of acceptance, not days.
- **Complete audit trail:** every accepted quote has a timestamped record with the exact selections, amounts, IP address, and browser info.
- **Upsell visibility:** optional add-ons are presented alongside core services, increasing average deal value through customer self-selection.

Technology

Layer	Technology
Frontend	HubSpot CMS (HubL templates) + Vanilla JavaScript
Backend	Node.js / Express API hosted on Render
CRM	HubSpot CRM v3 API (standard + custom objects)
Invoicing	HubSpot Invoices API with automated line items and associations
Caching	In-memory cache (NodeCache) to reduce API calls to HubSpot

Conclusion

This platform eliminated the manual bottleneck between a customer saying "yes" and the business being ready to deliver and collect payment. It turned a multi-step, error-prone administrative process into a single-click customer action backed by full automation. The sales team now focuses on selling, not paperwork.