

From Firmware to SMB SaaS: Shipping in Very Different Worlds

Two earlier chapters — embedded software for micromobility hardware, and data-science-powered features for an SMB advertising platform — and what they taught me about the constants of product management.

Chapter 1: Embedded Software & Hardware (Micromobility)

As an associate PM at a micromobility company, I drove requirements and release planning for embedded software and firmware features, partnering with hardware, software, and operations teams to ship field-ready products. Hardware is an unforgiving teacher: there is no hotfix for a vehicle already in the field, battery and thermal constraints are non-negotiable, and every release decision carries physical-world safety weight.

- **What it taught me:** requirements discipline and release rigor. When rollback is expensive or impossible, you learn to specify precisely, test exhaustively, and stage rollouts deliberately — habits that later made me better at shipping ML systems, where bad models in production are similarly costly to unwind.

Chapter 2: Data Science Features for SMB Advertisers (B2B SaaS)

As PM for performance and data-science features on an SMB advertising platform, I owned the surface where models met small-business owners — people with no analytics team and minutes, not hours, to act. I translated customer workflows, usage analytics, and competitive research into roadmaps, and partnered with data science to turn model outputs into recommendations a non-technical user could understand and act on.

- **What it taught me:** a model is not a product. The gap between ‘the model is accurate’ and ‘the customer trusts it enough to act’ is where the product work lives — interpretability, framing, and tying every insight to an action. Working alongside customer success also grounded me in retention economics: features earn their place by changing customer outcomes, not by being clever.

Why This Range Matters

Firmware, B2B SaaS, data platforms, ML personalization, and generative AI look like different careers. They are the same job under different constraints: understand the customer, respect the physics of the system you’re building on, and make the model — or the machine — legible to the human it serves.

What I'd Tell Other PMs

“Domain switches feel like starting over. They’re actually compounding — every constraint you’ve shipped under becomes judgment you carry into the next domain.”

The PMs I trust most with ambiguous AI products are rarely the ones who've only done AI. Range builds the instinct for which constraints are real, which are habits, and which are someone else's assumptions.

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