



**A technology platform and business model that leverages existing local wholesalers and big data to create an efficient nationwide distribution network for emerging market countries.**

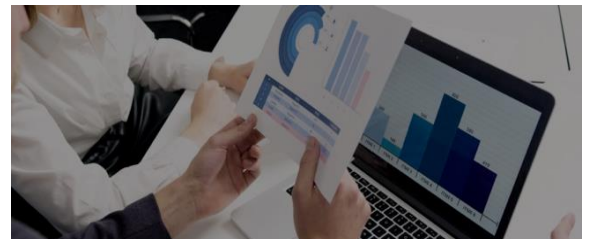
**Unique technology platform designed from the ground up to fit the unique requirements of emerging market value chains**

### Engagement Overview

Crownstack has engaged with &frnds since 2019 as a Product Engineering partner. The team helped &frnds build the web Admin and mobile applications. In addition, Crownstack provides quality assurance services to ensure a better user experience for end users and to increase feature release velocity by ensuring all quality-related checks are done timely via the Manual and Automation testing process.

### About the Customer

&frnds has developed a technology platform and business model that leverages existing local wholesalers and big data to create an efficient nationwide distribution network for emerging market countries. The model is asset-light with no Capex, no inventory or no subsidies and instead employs a network of tech-enabled salespeople to support technology adoption, drive sales and become the dominant technology platform and distribution network in these markets.



&frnds is engaged in multiple businesses like Banking, Agriculture, Retail, FMCG, Healthcare, MSME, etc. Through a combination of these different business ideas, they are giving end users a platform from where they can buy anything. In this way, they are targeting every large and small business and person so that they should get benefits from digital marketing.

<b>Industry</b>	Cloud, Blockchain, Digital inclusion, Fintech, Supply Chain management
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## Business Challenges

&frnds is engaged in multiple businesses like Banking, Agriculture, Retail, FMCG, Healthcare, MSME, etc. Combining these different business ideas gives end users a platform to buy anything. In this way, they are targeting every large and small business and person so that they should get benefits from digital marketing. To do this, they target these businesses or persons mainly: Wholesalers, manufacturers/ Principals, PreSellers & Outlets/ Shopkeepers.

- They wanted to provide a platform to different users for all operations-related work and managing WholeSalers, PreSellers, Outlets, etc.
- &frnds wanted to approach manufacturers/principles businesses and convince them to contact &frnds and manage their sales through &frnds.
- &frnds likes to pick the wholesalers according to different regions. Regions here like a particular Geolocation Area. They wanted to handle their stock of products through digital platforms.
- &frnds has its own operations team. These teams are also divided according to region based mainly. And in each area, they have a hierarchy to approach for different problems or reporting. They wanted a Web/Admin portal for all operations-related work and managing WholeSalers, PreSellers, Outlets, etc.
- They also wanted a mobile version to enhance their outreach, user engagement, and accessibility. This mobile platform must be user-friendly and especially beneficial in Indonesia and the Philippines' FMCG market, with a larger population of Android users than laptop users. Additionally, it must simplify user tracking and record-keeping, even in remote areas where the internet is at low bandwidth.

## Business Solution

Our engineering and quality assurance team worked with &Frnds engineering team in unison and implemented the following solutions for them:

- Crwonstack developed the Web Admin Panel to manage the geographical regions, Presellers, Wholesalers, Manufacturers and their inventories and offers.
- The web admin panel also helps us manage data, which &Frnds use in the Mobile Native application to showcase different products in inventory, promo and loyalties as other offers, payments and task management systems through Spot Checks.
- The crownstack engineering team also support and continuously develops a mobile application version. New features were introduced to provide users with order tracking, including promotions, BNPL orders, GPS-based spot checks for outlets, PAS, and streamlined management of bulk orders.
- The team also implemented a delivery tracking system.
- The team worked on Angular and Ionic and leveraged ngrx to store data, reducing the frequency of API calls. This optimisation is particularly beneficial in regions with limited bandwidth and higher costs, such as Indonesia and the Philippines.
- The team integrated Google Analytics to track user activities on the mobile application.
- The quality assurance team implemented an Automation framework in the testing process to improve the overall efficiency and productivity of the application.

## Technology Stack

Manual Testing	Manual & Automation
Frontend	Angular, Ionic
Workflow	JIRA, Github, Slack, Figma Designs

## Business Outcome

- Implementing all feature sets on the Admin/Web or Mobile version has positively impacted both &frnds and its users. It has facilitated more efficient order placement and improved accessibility for users, particularly wholesalers and outlets, even in areas with low bandwidth. Additionally, it has enabled wholesalers to expand their market reach.
- End users have much more efficient, easy-to-use applications per their respective requirements based on their region.
- The quality of the platform has been enhanced in terms of efficiency and time due to automation integration.

## Further Links

[Learn More About Crownstack's Offerings](#)

[Learn More about &frnds](#)