



Baidu Recycle

Name: Baidu Recycle

Organization: United Nations Development Program (UNDP)

Year launched: 2014

Countries: China

Users: over 11,000 electronic items recycled

UNDP China, like most other UNDP offices in 2014, was in a period of significant transition as the global organization attempted to move away from financing projects through traditional donor funding. The new aim was to become the development partner of choice for governments to share costs and create impact. Driven partially by the funding crisis affecting most international organizations as well as the realization that partnerships offered a more effective way of designing and delivering development solutions, UNDP was tasked with finding partners who could do more than just contribute money.

In preparation to this shift the UNDP China Office established a nimble innovation task force, which included former Communications Officer Louise Xi Li. The team looked at ways to iterate the new method of designing and implementing programs through innovation and partnerships. The big task the team had at hand was to find solutions to one of China's big risks: growing electronic waste. Domestic and foreign waste was flooding China, and although China had over 100 government-certified factories for electronic waste disposal, it was still very hard for citizens to find regulated and formal collectors to help bring electronic waste to those certified disposal factories. There was a strong black market of workshops where workers extracted valuable metal from the waste, causing serious health risks and harming the environment.



Baidu Transaction Flow Chart

UNDP China had been running a project funded by the Global Environment Facility, largely focusing on the electronic waste problem from a policy level. The innovation team quickly realized that policy changes were not enough, that users on the ground needed a different way to understand how they could dispose e-waste responsibly. Understanding the user better brought the innovation team (i-team) two key insights: technology can simplify the user journey while a responsible private sector partner could help in finding this solution and at the same time symbolize a change in corporate attitudes. As such, Baidu shared UNDP's vision for contributing to economic development and was excited to design incentives that actually helped citizens recycle.

Baidu and UNDP designed and iterated with users an app that allowed customers to take photos of their waste, get an estimate on how much they could receive for it, and sell it to door-to-door collectors who would pay directly for the waste and take it to a government-certified disposal factory. The app was designed to motivate customer behavior so that even if people did not see the health

and environmental value of recycling waste, they would still have the monetary incentive to dispose of it safely.

The partnership was a very new experience for UNDP China. “Back then, we didn’t think of anything like that, we thought we were just doing our work,” Louise acknowledges. “But looking back, it’s really the process of starting everything from scratch. At UNDP China, we have never taken the lead in creating an internet application in any previous experience, but through leveraging innovative private sector partnerships like Baidu, we were able to pull it together.” Naming the prototype “Baidu Recycle,” UNDP brought the idea to innovation workshops to gain insights from drawing boards and a wide array of expertise. It later received seed funding from UNDP’s global innovation facility.

In its initial two years, Baidu Recycle helped recycle over 11,000 computers, phones, televisions, and other electronic waste safely in Beijing and Tianjin. The project later offered the service in all major cities in China (22 cities), as it grew in popularity, with hundreds of thousands of searches for the Baidu Recycle app every month. There was also attention from other UNDP country offices and partners who had heard of the Chinese experience and were thinking about adapting a similar model to their local contexts including Ghana, Mexico, and the Maldives. While each context was vastly different, the electronic waste problem was shared.



Baidu Recycle's app, as seen on CCTV

Throughout the process, UNDP’s management was very supportive of the intrapreneurial venture, casting vision that enabled staff like Louise to take risks to innovate within new partnership structures, which was critical to the success of the initiative. UNDP China nurtured an innovative culture, with one or two staff from each team meeting twice a month to discuss their projects and help each other work through the snags. While Louise acknowledged that every new idea faces issues, her team had few challenges from the UNDP side in pursuing innovative initiatives, including launching and scaling Baidu Recycle.

However, the initiative had to work through other stakeholder challenges. First, a culture challenge for customers: Chinese citizens did not necessarily want strangers to come to their homes to pick up recyclable goods – many saw this as an invasion of privacy. Second, the current government’s heavy subsidizing of waste factories was key to their existence, since the factories were not self-sustaining from recycling and dismantling. For Baidu Recycle to truly succeed, a viable business model would need to overtake the system that relied on subsidies.

A more serious obstacle, however, was on the partnership side. After two years of initial funding, Baidu’s management, while agreeing Baidu Recycle was an initiative with impact, decided to deprioritize this initiative in 2017. At the time of this case the UNDP team was deciding whether to transition the solution to another tech company or the government in order to continue operating. What the project achieved in the initial stage was impressive for a non-profit model. However, to move to the next level, it needed a viable business model, or be incorporated by the government as the technical platform for government management of e-waste through an official channel. It could also be taken over by a competitor in the commercial market, as several similar products had sprung up on China’s market in the recent years. If these options fell through, UNDP was prepared to take ownership of the project, but this was a bit outside of their experience. “We’re an IO. It’s very difficult for us to have a fully equipped team managing an internet product full time,” Louise explained.

Louise and the team felt that Baidu Recycle, beyond reaching Chinese cities with an important environmental and health solution, also demonstrated the impact of a culture of innovation to internal audiences. "The 'innovation journey' helped to show the high potential of innovation to team members - not just show off the app itself." It allowed her team to show that innovation was more than a buzzword, but about finding the energy and knowledge for the solution outside the office, tailoring it to the end users and mobilizing new types of partnerships to co-create it. "In building up the innovation culture in the office: if you're just talking about it, you're just saying the big words, no one will see the concrete tangible results. But once this became the flagship project... people see the value of doing innovation. So now everyone is talking about how to incorporate innovation into their work. It's a big shift from asking why, to how." Building on the lessons learned from Baidu Recycle, the team is now exploring how to bring the overall innovation work to the next level, providing a solution exchange between China and other developing countries. UNDP China plans to expand as the digital innovation hub for Asia Pacific, providing an integrated access to innovative development knowledge and experience across the region.

Key success factors: strong project champion and dedicated, growing team; UNDP management support for an intrapreneurial culture; partnership to fill tech expertise gap; co-designing solution with the end users

Key challenge: inability to shift the project from a non-profit model to a viable business model

Summary	Tech		Scale	Partners	Impact	Success Factors	
App that enables door-to-door pick up and payment for electronic waste	MID TECH	Primary tech used: App	SCALING	Private sector, government	SOCIAL INTERNAL	Initiative: Diverse partners, strong project owner	Organizational: Dedicated staff time, executive buy-in