

Exercise: Innovation and supportive policies - 4 cases

Case A: Agrotools

Agrotools is a manufacturer of mechanical farming tools, as well as an importer of farming equipment with an extensive aftersales network nation-wide. It has developed a presence even in the most underdeveloped areas where grow-to-eat farming extends to more than 65% of all farming activity. It has been operating since the late '80s, originally servicing and repairing agricultural machines. Business and sales have been good for the last ten years with some dips during recent drought years.



Recently, Agrotools has been manufacturing attachments for its best-selling 2-wheel tractor (walking tractor or motocultivator) and has seen a steady increase in sales in one particular attachment: a structure with two wheels and a seat. Agrotools observed that similar low-tech attachments were being produced in India and Thailand. When asked where the market was going with this, Agrotools' production manager Otto Maating explained: *"... with the youth leaving the villages, increasingly older women and men are working the fields. With age, the two-wheelers are getting too heavy for them to handle on foot. Our attachment allows them to sit behind their two-wheeler, drive it and plough or seed like a 4-wheeler, which cost 3 times more, mind you. They've been selling like hot cakes, we can't make enough of them!"*

Regarding how the development and production process was organized, Otto explained that the technicians had worked on a prototype, mating it to their most popular 2-wheel tractor and testing it in the field behind the showroom. Once they were happy with the performance they put aside the prototype and are now using it to take measures for manufacturing units for sale. Asked if they were assessing the design for improvements, Otto replied: *"Oh, the farmers will tell us if it needs betterment! They are quick to complain if anything goes wrong!"* Asked what the government could do to help Agrotools, Otto said: *"Just let us do our business... and also stop changing taxation rules and levies twice a year!"* Current production is 10 units per week.

Case B: QuickCuts



QuickCuts has become a popular men's barbershop chain in less than 3 years. Cy Zorbigo, the founder, explained his youthful frustration that led to the creation of QuickCuts: *"I hated getting a haircut as a child... Later at college I wanted a quick and simple cut with no fuss, short in the back and sides, a little less on top, and cheap, cheap, cheap – how can an odd-jobbing 20-year old afford fancy hair salons?"*

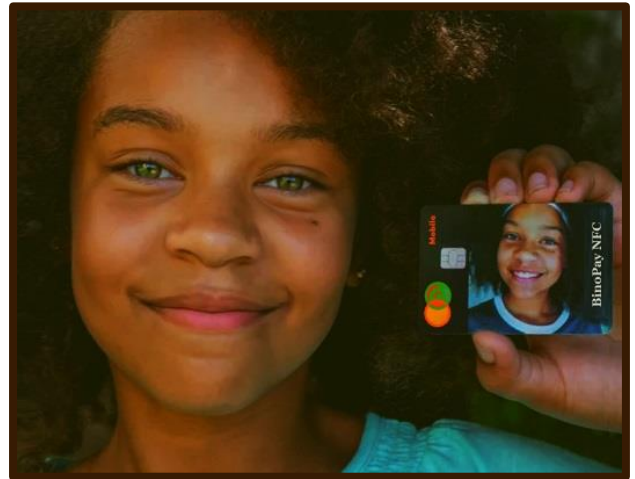
Jobless with a degree in business, and without any training in hair styling, Cy started cutting hair door-to-door in his impoverished neighbourhood for one tenth what the shops were charging. The only problem was that he could only do one simple haircut. Still, customers kept coming, texting on their mobiles for appointments. Cy recalls: *"It is then that it hit me:*

what if I open a shop that does only one haircut for a quarter of the going price in the fancy barbershops? I found an unrented shop space nearby and convinced two of my schoolmates to join – I trained them myself, it took two weeks for them to master Cy's special haircut. They trained on boys from my neighbourhood – free haircuts for under-twelves. There were a lot of happy mothers!"

QuickCuts opened its 11th shop last month. New hires are personally trained by Cy to cut the unique style. So far, all profits have been reinvested in expanding the shop network. Asked if he would be eventually introducing a second haircut style, Cy chuckled and explained that he currently had in training four women, friends from schooldays and college, who are developing a unique style aimed at schoolgirls and young women. Asked what the government could do to help QuickCuts, Cy replied: *"I never thought they were interested beyond collecting taxes and penalties... maybe train for better IT skills at university and tevet schools?"* Cy will soon be launching a branded and native language version of a mobile appointment booking app produced in collaboration with developers in Norland.

Case C: BinoPay

Afiya Otello established **BinoPay** after reflecting on her childhood spent in week-day boarding schools (so that her parents were freed-up to work long hours) and the lack of even small change to buy a sweet or a new pencil or notebook. *“The headmistresses were very strict and thought that any coins and cash lying about could encourage theft or quarrel among the pupils.”* Afiya explains. But why should this be a problem today, in the era of mobile money? *“It hasn’t worked out...”* claims Afiya, *“...mobile phones are largely forbidden among the pupils and the teachers refuse to be the pupils bankers, rejecting mobile money sent from parents for safeguarding.”* In comes BinoPay – a debit card loaded with mobile money and controlled by the child’s parents.



With a degree in computer engineering and software development, Afiya built a strong professional background working as a senior application developer for Brainnet Ltd. and Orange (Norland) on mobile payments and m-commerce. Not happy that she was working on technical development rather than solving societal problems, Afiya created BinoPay in 2014 on her own. BinoPay developed a tap-and-pay card on which money can be loaded from a mobile phone. These cards are used by pupils to pay for small expenses. The parents can limit the amount and purpose of the spending. Afiya explains that *“...sports betting has reached pandemic proportions and children are lured into spending what little pocket money they have, often joining together to make one bet, losing money and quarrelling over who said what in the end.”* Parents are delighted as it teaches children accountability and personal finance management.

What was the greatest challenge? *“Convincing the regulators that we were not really a mobile money operator,”* says Afiya, *“...we just make electronic wallets for Mobifon and Digitele mobile money, for people who don’t have a handset. It took me two years of meetings and convincing!”* Afiya received coaching and met her first collaborators and was introduced to potential investors at the *Sandbox* business accelerator: *“...the management coaching was very much needed but the funding proposals did not work for me – I didn’t need much but the equity requested was unfair and I was always fearful they would steal my idea!”* BinoPay has also reached out to the NGO community which uses its cards to support specific purchases for women and children health and hygiene products, and for supporting small farmers’ purchases of seeds, fertilizer and tools. Afiya is currently linking up with IGOs and NGOs working with refugees on the eastern border and who are provided financial support. *“It’s a simple tool, but useful in many situations!”* Afiya concludes. BinoPay employs 18 staff and has a country-wide network of agents. The 100-thousandth card will probably be issued next month.

Case D: EcoMill



EcoMill founder Bolanle Mwangi has built a business that recycles plastic waste by turning it into an environmentally friendly alternative to wood. Growing up in the Kibera slums of Nairobi's capital she experienced a childhood of poverty and witnessed unemployment, environmental degradation, and waste clogging the streets of her neighborhood. As a schoolgirl, her environmental consciousness had already evolved.

After graduating with a BA in Accounting, she went into a career in banking. However, she felt unsatisfied and her life-long ambition to tackle the increasing plastic waste problem led her to resign from her bank job, and start an eco-business in 2008. Bolanle invested all her savings and worked nights freelancing. Disappointingly, her ex-employers – CCBank – turned down her loan request as she had no collateral. Rejections for funding also came from Government. STI funding agencies said her proposals had no

academic credentials or backing. Bolanle explained: *"I just wanted to make good products with a positive environmental impact, not write papers! Our Government needs to support innovators, not professors..."* In 2010, the first output of 500 poles for signposts was produced and quickly sold. Her big break came in 2011 when she won a competition for International Woman Entrepreneur of the Year and received a grant of US\$100,000.

EcoMill manufactures a wood-plastic composite – EcoLumber – used for making fencing posts and durable lumber-like planks. The raw material includes waste materials used to make plastic bags and water bottles. The recipe for the wood-plastic mix is kept offsite in a safe. Research cooperation was offered to the University but it did not see academic potential in the project. Bolanle laughs: *"... they thought it was too practical!"* Most clients are individuals or private companies. Its main competitors are importers as Nairobi has barely 3% total forest cover. EcoMill has been unable to compete in public tenders as it doesn't satisfy paid-up capital requirements to be listed as a government contractor. However, other opportunities lurk around the corner. Bolanle explains: *"We are using our knowledge of how the city generates and disposes its waste to develop waste management app for future smart cities."*

EcoMill uses a point-based reward system for collectors of plastic waste. Franchised agents receive the waste and measure the weight and moisture content and log this information. The collectors then receive points that can be redeemed for airtime or mobile money. Alongside its 40 staff, EcoMill uses the services of more than 6,000 mostly women collectors. Going forward, EcoMill estimates it will create at least 150 direct jobs and 20,000 indirect jobs over the next 5 years. EcoMill also contributes to protecting forests that are under threat from logging. It has recently acquired new extrusion machines that will double production capacity to 7,200 posts and planks per month. Rising timber prices and increasingly restrictive logging regulations are positively affecting EcoMill's growth potential.

Annex: List of potentially relevant policies

- Ministerial or sector level STI policy
- Policy guiding the operation of an Innovation fund or SME fund and its respective constitution or operational procedures
- SME support policy
- Fiscal policy – taxation of R&D activities and innovative start-up firms
- Fiscal policy – spending on ICT, digital and logistics infrastructure
- Policies and guidelines for business and technology parks
- Policies and guidelines for business accelerators and incubators
- Policies governing higher (university) education
- Policies governing research and R&D themes and areas in public academic and research institutions
- Policies for STI road-mapping
- ICT policy
- Policies governing primary and secondary education
- Gender policies
- Policies supporting women and youth entrepreneurship
- Trade policy and customs and tariffs for the import of digital and other advanced technologies
- Policies on international cooperation with science academies
- Technology transfer policies and facilities
- Policies governing engagement with international development partners
- Investment and export promotion policies
- Industrial policy
- Environmental policies and policies governing the implementation of commitments to the SDGs
- Policies on regulation of industrial standards
- Regulations on the safe operations of machinery, in particular for operating self-moving machinery
- Licensing policies related to personal care businesses
- Licensing policies related to financial service businesses
- Policies and regulation on homologation of vehicles and machinery used in agriculture activities
- Policies on agriculture and rural development