



The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

Final Copy of Case Study

YEAR:
2012

STATUS:
Laureate

Organization:
mPedigree Network

Organization URL:
www.mPedigree.net

Project Name:
mPedigree

What social/humanitarian issue was the project designed to address? What specific metrics did you use to measure the project's success?

Counterfeit medicines are pharmaceuticals that are deliberately mislabeled to disguise the fact that: a) contain too little or too much active ingredients; b) are made by infringement on the intellectual property rights of legitimate rights holders; c) are made and sold in contravention of national, regional and global regulations; and/or d) are produced, stored or marketed under conditions that deteriorate their quality. Counterfeit medicines are believed to be responsible for 2,000 deaths daily, according to an estimate by the International Policy Network in 2010. When they do not lead to deaths, such as the recent mass fatalities in Nigeria involving nearly 100 infants, the fact that the WHO estimates their prevalence to top 20% of the total medicine supply in many developing countries means that they are a huge drain on scarce resources. Worse than that, they contribute to the gaining of resistance, to even legitimate medicines, by pathogens incrementally exposed to sub-potent, poor-quality medicines. Pharmaceutical companies lose more than \$70 billion annually to this trade, but are poorly served by current security systems such as holograms and RFID because of the high costs and infrastructure requirements which make them unsuitable for those markets where the problem is most pronounced. The biggest drawback of existing security solutions against knocked-off medicines is, however, the fact that they don't align well with the safety needs of product consumers, who are cut off from the verification process. mPedigree changes all these dynamics by putting the power to verify quality in the hands of consumers. It monitors its current progress by tracking growing use at individual level, adoption by pharmaceutical companies, enrollment of new product lines, success in

attracting telecom companies to participate, replication in other markets, and awareness levels of both the problem and the solution.

Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.

The technology is deployed at four levels. 1) Manufacturers sign up to the cloud-based service and then integrate their label sourcing mechanisms with mPedigree's intelligent label logistics management process. This allows mPedigree to initiate mass serialization of all labels produced for the product the manufacturer (or brand owner) wishes to protect without any need for upfront capital investments or the installation of equipment on the production lines. 2) Consumers, upon receiving a pack of medicine protected under the scheme, remove the tamper-evident panel from the serialization area of the pack, unveil the pack-unique ID and, via free text messaging on even the most basic phone, query the mPedigree cloud for the latest quality assurance data within 5 to 10 seconds. 3) Regulators are induced to back the whole exercise and contribute to public awareness/legitimacy because mPedigree offers a free aggregate tracking tool that enables them to deploy their scarce resources in an intelligence-led fashion. Regulators are furthermore able to use the platform for market education and engagement purposes as part of their post-authorization market surveillance activities. 4) Other players in the supply chain, such as distributors and retailers, can be enrolled on the wishes of the brand owner in order to secure the entire distribution network, by enabling step-by-step authentication of the supply line right from the manufacturer/factory to the consumer/end buyer. The end result is a massive revamping of confidence. The elegance of the mPedigree solution inheres in the fact that it achieves its objectives with "appropriate complexity" at every level. Consumers require no training. Manufacturers and regulators require very little training. However, saboteurs are confronted with overwhelming complexity when they try to penetrate the system's security. To bolster these efforts, mPedigree works with tech leaders HP.

Please list the specific humanitarian benefits the project has yielded so far.

1) mPedigree Network has contributed immensely to the redesign of regulatory policy in Kenya and Nigeria, leading to the incorporation of end-user verification and mobile-driven authentication into the regulatory framework. 2) mPedigree's activities have led to a tremendous boost in awareness of the problem in Ghana, Nigeria and Kenya, as a result of its novel use of cellular technology to suppress the incidence of counterfeit medicines, which has given stakeholders and media a new, more uplifting angle to approaching the issue. mPedigree believes that a number of major detection incidents precipitated by public tip-offs are the result of such heightened awareness. 3) To date, mPedigree's several rollout activities in half a dozen countries have directly led to the securing of pharmaceuticals in the key therapeutic categories of anti-malarials, antibiotics, pediatric, nutraceuticals and many more, benefitting more than 200 major human communities and several hundred pharmacies across Africa.

Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.

mPedigree successfully transitioned the flagship brand of KAMA Health Industries in Ghana in 2011. The change management process precipitated an increase of only 0.25% in KAMA's cost structure. Performance improvements, however, collectively reached an astounding 70%. KAMA's confidence level was boosted by the exercise, to the extent that they have now enrolled the two remaining anchor brands. These brands constitute 85% of the company's sales volume. The benefits in the supply chain, beyond the label serialization orbit, are also beginning to show

strongly. Customer response management has improved significantly as a result of the improved data collection on customer buying habits, while limited surveys report improved consumer engagement with the brand. This can be attributed in large part to the enhancement of confidence in the brand on the part of end buyers. In the surveys dealing with end-customer perception, it was discovered that customers with adverse prior experiences exist, and that they had sought to mitigate future adversity by identifying trusted pharmacy outlets. Given the serious inconvenience posed by an inability to rely on significant sections of the retail network, the introduction of the technology proved a huge boon for such customers, many of whom fell into categories appropriately described as "vulnerable," such as nursing mothers, pregnant women, and commuter day laborers.