

Project Id	121
Project Title	A study of recycled cartridges - sustainability and quality
IName	Rong
fName	Xiaoying
Faculty Phone Number	805-756-2027
Faculty Email Address	xrong@calpoly.edu
Additional Faculty	
Faculty Department	Graphic Communication
Project Description	<p>Over 300 million printer cartridges are thrown away every year based on statistical data. This generates 75,000 tons of waste annually. To reduce waste, many printer manufacturers recycle ink cartridges. Aftermarket manufacturers also recycle and sell refilled ink cartridges for much lower cost than OEM products.</p> <p>This project focuses on remanufactured inkjet and toner cartridges for home or small office use. The studies will include 1), the consumer's decision making of choosing aftermarket cartridges vs. OEM cartridges; 2), the impact of discarded cartridges to environment; 3), The quality comparison of OEM and remanufactured cartridges; 4), new technologies of reducing environmental impact in manufacturing cartridges (materials, packaging, business model, and printing). This project will be collaborated with eCycle Group.</p> <p>There is a project started recently in investigating remanufactured inkjet cartridges for printing quality. It is important to understand how consumer's business and environmental decision will impact recycling, and the means of encouraging remanufactured cartridges usage and reducing environmental impact with technologies.</p> <p>Students who will be working on this project can pick any aspect that they are interested in and develop their own mini-projects. The results will be discussed with all students when the entire project is done.</p>
Interdisciplinary Nature Description	This project requires knowledge of business, technical, and statistical aspects of sustainability study. In addition, knowledge of material science, manufacturing engineering, and graphic arts is important for design and fabricating cartridges with less environmental impact.
Links	
Number of Honors Students Requested	3
Applicable Majors	ENVE, BUS, GRC, IME, IT, BRAE, MATE
desired_res	Students with basic research skills are preferred. This skills include creating and conducting statistical study and analyzing data.
Date Added	2008-10-20 12:23:39
Active	1