E-Cycling Made Easy

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Why?

Collection — Dismantling & pre-processing — Smelting & refining

80% X 50% X 50% = 20%

50% X 25% X 95% = 12%

Example of gold recycling, Figures are illustrative

Outline

Survey → Findings
Program Research → Findings
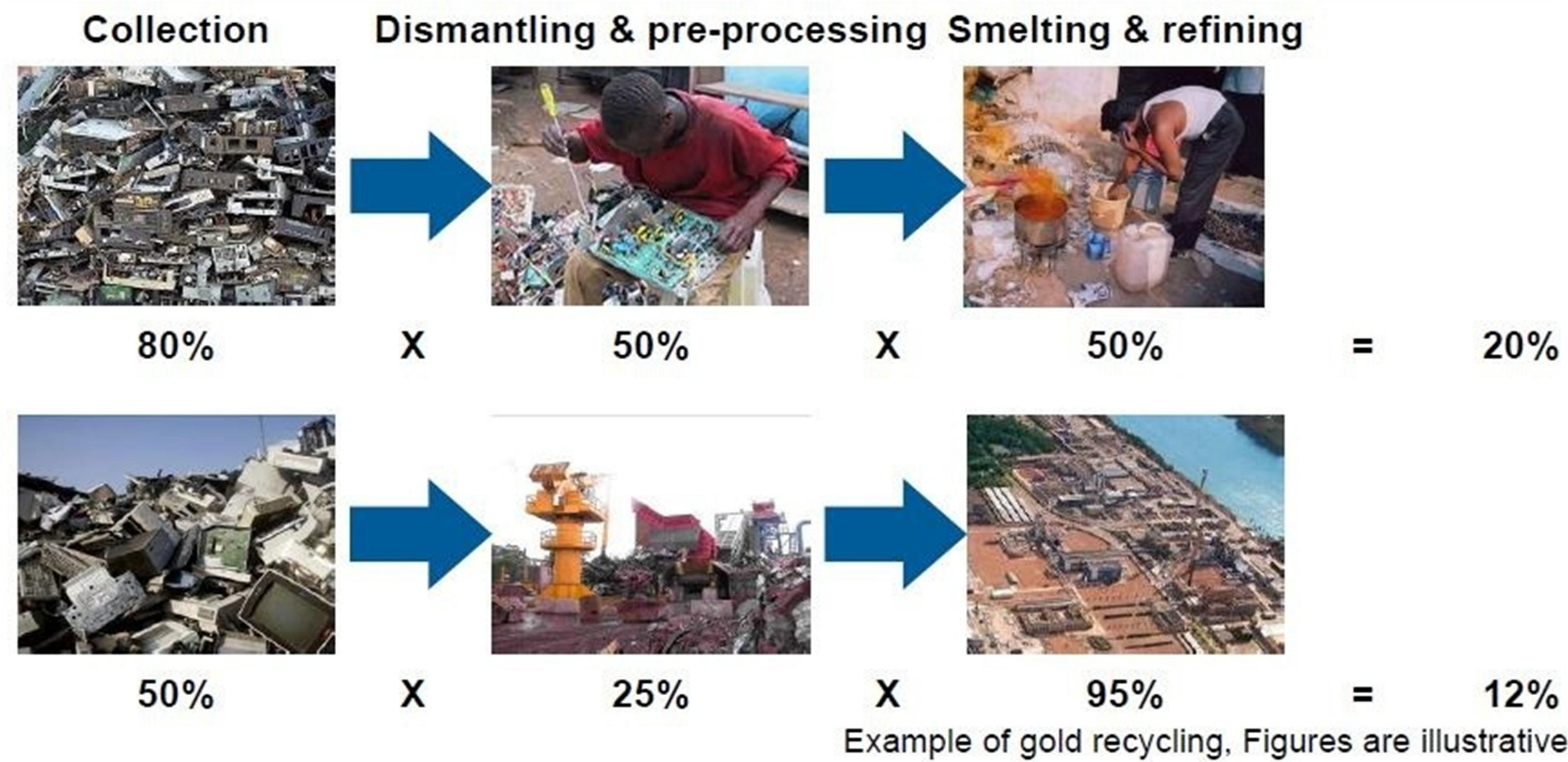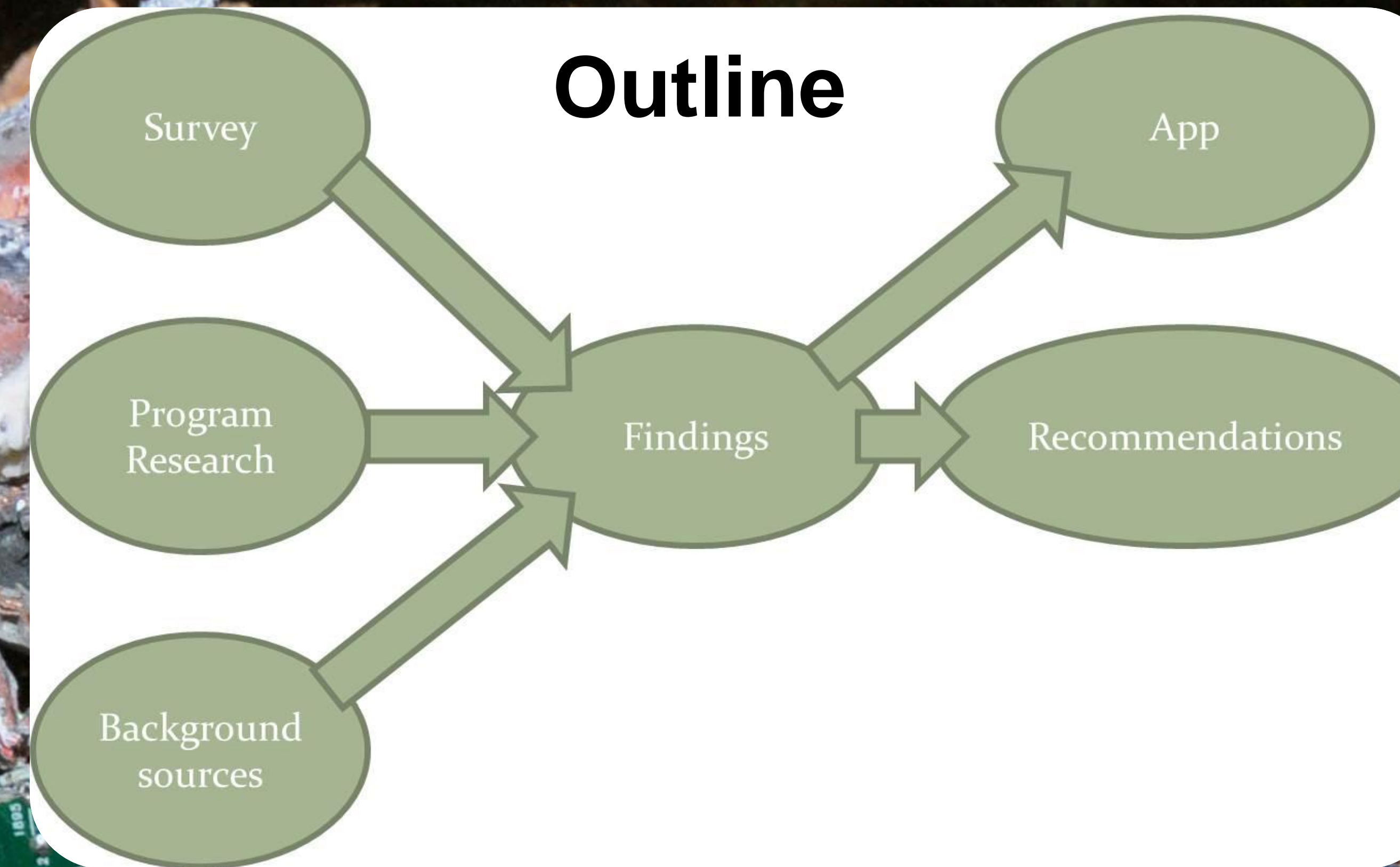Background sources → Findings
Findings → App
Findings → Recommendations

What we found

- Common traits of the programs:
  - lack of financial incentives
  - drop-point collection method
  - desire to divert e-waste from the landfills.
- Additions to the WPI sustainability website:
  - a map of campus with the locations of the boxes
  - summary of e-waste recycling
  - links to recycling tools
  - iOS app link
- Locations of boxes also in an iOS app.

How we did the project

Survey
- What devices do you own? Do you recycle these devices? What would make you recycle? Do you recycle on campus?
- To gain a better understanding of consumer recycling habits and needed incentives for recycling.
- Sent to all undergrads at WPI to get a representative sample of the college population.

Program Analysis
- Types of materials the program accepts. Method of collection. Cost of the program. Incentives, loyalty programs and benefits.
- For a better understanding of recycling and collection program components

Abstract

In order to combat the low collection rates, we analyzed collection programs already in place and found the parts of the programs that worked the best. From this and a survey of WPI's students, we developed several recommendations to increase collection. We also developed an iPhone app to enable users to find e-waste collection boxes on campus or to locate recycling centers in their area. The overall goal is to increase collection rates and secure the required precious materials for electronics production.

Impact

- **Security enhancement**
  - Larger boxes
  - Locking cables
- **Educational programs**
  - Educate students during NSO
  - Inform about e-waste and recycling on campus
  - Describe additional tools and on campus groups
- **Financial incentives with Helpdesk**
  - Bonus points/Goat Bucks for devices
  - Offer market value for devices through a buy-back system
  - Designated recycling options
- **Strategic box placement**
  - Higher trafficked areas
  - Better publicity
- **iOS App**
  - Increase usage of on campus recycling
  - Tools for students about e-waste
  - Free to use on App store

Project Goals/Objectives

- **Increase collection rates**
- **Develop a super program for colleges/schools**
- **Increase usage of WPI recycling program**
- **Develop an iOS app**

Picture References

<http://cdn.ifixit.org/files/2012/01/D7K_6531.jpg>
<http://cdn.ifixit.org/files/2012/02/Picture-064.jpg>
http://2.bp.blogspot.com/-7CKfkCmerJ4/TwuVOC7kZFI/AAAAAAAAABk/WjldH2XNcU0/s1600/E-Waste+Recycling.jpg
Umicore Corporation Collection photo