**Questions**

**What is important to customers (users)?**

* What specific needs does the EV&Hybrid EV charging station or service fulfill?
* Needs:

1. How to pay? Does the customer pay IPFW?

a) Do they pay AEP?

b) Cash, Credit, Billed, Pre-Pay?

* How many EV cars drive to IPFW? (Greg)
* Where could the EV station be placed? Where do consumers want the EV spaces to be built.
* What are the PV charging voltages for various EV/Hybrid plug-ins? (Bob creates a table)
* What are the various charging connectors for EV vehicles?
* Work with Office of Research, Engagement, and Sponsored Programs. <http://www.ipfw.edu/research/>

**How is our product perceived compared to those of competitors?**

* How do customers (users) perceive the features of our new product (new service) compared to the features of our competitors’s product? (features differentiation)
* Is the major feature that differentiates our product (service) from the competition value by customers? (**value**)
* What is the carbon footprint saved by using 1 EV station compared to combustion engine parking spot? (Ryan)
* Would this product replace usage of other similar product (service) in the marketplace? (**substitutability**)
* Features

**How do customers make decision when purchasing this service?**

* What are the key criteria that people use when selecting this service? (**criteria**)
* What 2-3 criteria are the most important?
* Criteria
  + Cost to use/ Cost to operate?
  + Accessibility
  + Convenient Location
  + Ease of use
  + Weather sealed charging
  + 2 hour time limit?
  + ‘Waiting spaces’
  + A ‘full charge’ guarantee, with no over-charge.

Robotic Trellace, Automatic Car mover, Text Message the user when the car is fully charged.

**What do customers think about this potential new product?**

* How likely would customers be to purchase this product (use this service) as it is currently envisioned?
* How likely? 0 to 100%

**What do customers think about this new service?**

* What do customers specifically like and dislike about this service?
* What are the unmet needs this service would fulfill?

**What is the most power-efficient EV&Hybrid EV charging system in America?**

* **Research charging systems around the country (Greg)**
* **High voltage: Ann Arbor's electric vehicle charging stations see growing demand** http://www.mlive.com/news/ann-arbor/index.ssf/2013/09/high\_voltage\_ann\_arbors\_electr.html

**What are the major components (subsystems) of the desired EV & Hybrid EV charging station?**

**Estimated costs**

* Cost of installation of power line and metering from AEP,480 volts (Ryan)
* Cost kw/h

**Subsystems of EV & Hybrid EV Charging Stations (Peter, Bob search existing EV stations)**

* **AC power supply, metering and wiring**
* **AC-DC rectifier, power electronics**
* **Charging metering subsystem**
* **Payment subsystem**
* **Parking space, vehicle counter, etc**

**Why IKEA Solar Panels are a Great Idea, by Kasey Panetta,** [**http://www.ecnmag.com/blogs/2013/10/why-ikeas-solar-panels-are-great-idea?et\_cid=3528686&et\_rid=281026305&type=cta**](http://www.ecnmag.com/blogs/2013/10/why-ikeas-solar-panels-are-great-idea?et_cid=3528686&et_rid=281026305&type=cta)