Prof. Dr. Sadrieh
Lehrstuhl für E-Business

WW FAKULTÄT FÜR WIRTSCHAFTSWISSENSCHAFT

"Information, Reputation, and interactive Marketing" (20187)

Exam, Summerterm 2013
July 16, 2013
Prof. Dr. Sadrieh

Name: _____	*Matriculation number:* _____

Please answer all of the following 4 questions in 60 minutes. Do not expect all numerical results to be integers. Please explain all your answers briefly, so that calculations and derivations can be fully accounted for. The use of calculators is permitted in accordance with the regulations of the faculty's examination office.

Please fill in your name and your matriculation number!

The exam includes in total ***52*** *points.*

Task 1 (Information)

a) *Name three important information deficits in markets? (3 points)*

b) *Define the term "information rent". In a market with buyers and sellers, who can benefit from an information rent? Briefly explain how? (5 points)*

Task 2 (Reputation)

a) *What is reputation? Name the four requirements for the existence of reputation. (5 points)*

b) *If it is not possible to build up reputation in a market place, what actions can buyers or sellers undertake to solve information problems? Name the action, briefly explain and give one example each. (6 points)*

Task 3 (Interactive Marketing)

a) *Give the analytical form of the Dorfman-Steiner condition and briefly explain all variables and parameters. (4 points)*

b) *What does the condition tell us in markets with imperfect competition (e.g. monopoly or duopoly markets) and in markets with perfect competition? (3 points)*

Please find further tasks and information on the next page!

Task 4 (Theoretical Model)

Assume that you work in the sales department of a start-up company. The company has designed the mobile device "EarTV" that combines a mobile phone with a small television. The company has already invested **10000€** to build a factory and the production cost for a single EarTV are **2000€** (Euro). You should contact one of the most influential managers in the entertainment industry, present the design of the EarTV, and try to sell it after the presentation.
You know that among all influential managers, the willingness to pay for the new EarTV is uniformly distributed between **2000€** and **10000€**.
Assume that you randomly select one manager, call him and present the design of the EarTV. Everything is fine so far and now you should make a sales offer. Unfortunately, you can't identify the manager's willingness to pay.

a) *Assume you have just one single chance to offer a price and the company has told you to maximize the expected profit. What price do you optimally charge and what is your maximum expected profit? (5 points)*

b) *The manager's assistant offers you to report the exact willingness to pay of his boss. What would you be willing to pay for this information? (3 points)*

After your successful meeting with the manager, EarTV will be sold at the online market place digi-stuff.com via several official retailers! On digi-stuff.com, not only new and original products are sold. Some retailers sell used EarTVs and other retailers sell fake copies. From your market research department you get the information that customers are willing to pay **4000€** for a brand new and original EarTV, **2000€** for a used EarTV and **500€** for a fake copy. You also get the information that half of the retailers on digi-stuff.com sell used EarTVs and one third sells fake copies. Assume that retailers get used EarTVs for **1500€** and fake copies for free.

c) *If consumers can't identify the type of retailer they are buying from, what kind of EarTVs will be traded? Is this a market failure? Briefly explain why. (8 points)*
(Hint: Assume that selling on digi-stuff.com does not cause additional cost for the official retailers.)

d) *Briefly explain two things digi-stuff.com could do so that the retailers with fake copies leave the market. If no retailers sell fake copies on digi-stuff.com anymore, will there still be a market failure? (4 points)*

For legal reasons, digi-stuff.com can't make the retailers with fake copies leave the market. However, advertising could increase the customers' willingness to pay for the original EarTV at the online market place. For each single customer, the relation between advertising expenditures and willingness to pay (WTP) can be quantified as **WTP(A) = 4000 + 1000A** where **A** is the amount of advertising. The cost for the first unit of advertising is zero, because the retailers can use a simple guerilla marketing campaign, which means that **COST(A ≤ 1) = 0**. The cost for each further unit of advertising is **1500€**, which means that **COST(A > 1) = 1500A**.

e) *What is the optimal amount of advertising units that the retailers with official EarTVs should invest? (6 points)*