How to improve our on-campus parking system?

Team C

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Agenda

- Research Question and Motivation

- Survey Methodologies
  - Population and sampling groups
  - Design and questionnaires
  - Feedback from pre-test

- Discussion

Introduction

- **Research Question and Motivation**
  - ❑ The cost of parking at the meters on campus has increased recently to $2/hr
  - ❑ Wanted to study the affect of this change on the campus community as well as to study their opinions on the metered parking available at CMU
  - ❑ 3 kinds of questions:
    - Background info
    - Measures of satisfaction and behavior
    - Measures of satisfaction and behavior toward changes such as meters which accept credit cards

Introduction

- According to our research, the cost of parking at meters in Pittsburgh is above national average

- Article was published last year citing CMU Marketing Professor saying rates appeared to be too high

- Want to test if this is truly the case or if there are other concerns and possible solutions to the metered parking problem

Survey Methodologies

- Target Population: Active and current Undergraduate, Graduate and Faculty members of the Carnegie Mellon Community

- Sampling Frame: Carnegie Mellon C-book

  - Survey Mode: CSAQ (Computerized Self Administered Questionnaire)

  - Outcome Variable: Satisfaction Score

  - Indicator Variables: Availability, Tickets, Parking solutions

Survey Methodologies

- Based on "Do you own a car which you use (either regularly or occasionally) to commute to and from CMU?" and " Do you use a friend's or family member's car to commute to and from CMU (either regularly or occasionally)?"

- Stratified by Students and Faculty using an optimal allocation design
  - 300 total respondents for a Margin of error of .076
  - 133 faculty, and 166 students
  - More students due to variance

Survey Methodologies

- ## 300 sets of numbers: (page, column, line)

Student Emails

Generator			
Identifier	Page	Column	Line
74-2-27	74	2	27
12-2-39	12	2	39
93-1-9	93	1	9
31-2-1	31	2	1
100-2-31	100	2	31
34-2-17	34	2	17
53-1-14	53	1	14
86-2-25	86	2	25
68-1-2	68	1	2

Silvia			
Identifier	Page	Column	Line
11-1-23	11	1	23
11-1-35	11	1	35
12-1-12	12	1	12
12-2-25	12	2	25
13-1-36	13	1	36
13-2-1	13	2	1
13-2-16	13	2	16
14-1-22	14	1	22
14-1-31	14	1	31
14-2-37	14	2	37

Nick			
Identifier	Page	Column	Line
11-2-16	11	2	16
11-2-24	11	2	24
11-2-28	11	2	28
12-1-20	12	1	20
12-1-32	12	1	32
12-2-31	12	2	31
13-2-12	13	2	12
14-2-9	14	2	9
14-2-10	14	2	10
14-2-14	14	2	14

Faculty Emails

Have extra numbers for nonresponse purpose

Shu			
Identifier	Page	Column	Line
126-2-27	126	2	27
134-2-14	134	2	14
133-2-40	133	2	40
139-2-19	139	2	19
127-2-8	127	2	8

Yijia			
Identifier	Page	Column	Line
128-1-19	128	1	19
140-1-1	140	1	1
136-1-32	136	1	32
135-2-24	135	2	24
124-1-11	124	1	11

Survey Methodologies

- Feedback from pre-test
  - Problems: Repetitions, confusion, forgetting
- Emphasis on people's past experiences and perceptions about price, conditions and usages of metered parking spots
  - Profile *(age, class, college)*
  - Frequency *(How many times in an average week in the past semester have you…)*
  - Scenario rating *(How much more or less satisfied would you be if …)*
  - Fairness *(How fair do you think the rates for the metered spots?)*

Discussion

- Where we are in the process
    - Data collection—166 students (800 Emails)
                  133 faculties (400 Emails)
    - Finished 1st round email sending by this week
- Dealing with response rate
    - Send reminders after 1 week
- Data Analysis

Discussion

- Problems and difficulties of research
  - List of all students with parking pass?
  - problem: not a random sample car owners overrepresented
- Potential errors and mistakes
  - response bias---report fewer numbers of unpaid parking

QUESTIONS?