

The Impact of Mobile First and Responsive Web Designs

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CENTER FOR SURVEY RESEARCH



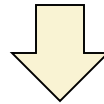
*“You might not be interested in ~~war~~ **mobile surveys**
but ~~war is~~ **they are** interested in you.”*

— ~~Leon Trotsky~~ **Me**



The Mobile Challenge

- More respondents are going mobile.
- Mobile break-off rates are higher.
- Maintaining two designs can be costly and can impact data quality.



- Can we apply general web design principles to address these problems?
- Can one design improve the experience for mobile users without negatively impacting desktop users?



Experiment #1: Methods

- Web design assigned randomly
 - 50% standard
 - 50% mobile first (M1)
- Device chosen by respondent
- Post-survey evaluation items (de Bruijne and Wijnant 2013)
 - Pleasant layout, easy to complete, could be learned quickly, professional look
- Analyze break-off rates, survey duration, response distribution



Experiment #1: Administration

- Survey on campus computing
 - Field period: spring 2014
 - Sample size: 4000
 - Faculty, staff, students
 - Average duration: 8.7 minutes
 - Response rate: 40% (RR2)
 - Smartphone component: 7%
 - Students: 14%

Experiment #1: Standard Design

Desktop:

← → ↻ <https://survey.indiana.edu/uits14/229007514/main/2/edit.cfm?CFID=22074&CFTOKEN=a38fb1b175e12f96-6325EF14-5056->

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University Information Technology Services User Satisfaction Survey 2014

General Services

Overall, how satisfied are you with the services and support offered by UITS (uits.iu.edu) during the past year (e.g., Support Center consulting at 812-855-6789, Student Technology Centers, email, wired and wireless network access, telephones, research computers, library online catalog, and administrative systems)?

Not at all Satisfied _____ Very Satisfied _____ Not Applicable _____

1 2 3 4 5

Overall, how important are UITS systems and services to your work or study?

Not at all Important _____ Very Important _____ Not Applicable _____

1 2 3 4 5

How would you rate your computer expertise?

Novice _____ Expert _____

1 2 3 4 5

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Smartphone:

Verizon 10:39 AM

← → survey.indiana.edu ☰ 2

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University Information Technology Services User Satisfaction Survey 2014

General Services

Overall, how satisfied are you with the services and support offered by UITS (uits.iu.edu) during the past year (e.g., Support Center consulting at 812-855-6789, Student Technology Centers, email, wired and wireless network access, telephones, research computers, library online catalog, and administrative systems)?

Not at all Satisfied _____ Very Satisfied _____ Not Applicable _____

1 2 3 4 5

Overall, how important are UITS systems and services to your work or study?

Not at all Important _____ Very Important _____ Not Applicable _____

1 2 3 4 5

How would you rate your computer expertise?

Novice _____ Expert _____

1 2 3 4 5

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Experiment #1: M1 Design

Desktop:

← → ↻ <https://survey.indiana.edu/campusIT/232002175/main/2/edit.cfm?CFID=22074&CFTOKEN=a38fb1b175e12f96-6325EF14-50!> ☆

UIITS User Satisfaction Survey

General Services

Overall, how satisfied are you with the services and support offered by UIITS (uits.iu.edu) during the past year? (e.g., Support Center consulting at 812-855-6789, Student Technology Centers, email, wired and wireless network access, telephones, research computers, library online catalog, and administrative systems)?

1 Not at all satisfied

2

3

4

5 Very satisfied

Not applicable

Overall, how important are UIITS systems and services to your work or study?

1 Not at all important

2

3

4

5 Very important

Not applicable

How would you rate your computer expertise?

1 Novice

2

Smartphone:

●●●● Verizon 10:43 AM

← <https://survey.indiana.edu> ☰ 1

General Services

Overall, how satisfied are you with the services and support offered by UIITS (uits.iu.edu) during the past year? (e.g., Support Center consulting at 812-855-6789, Student Technology Centers, email, wired and wireless network access, telephones, research computers, library online catalog, and administrative systems)?

1 Not at all satisfied

2

3

4

5 Very satisfied

Not applicable



Experiment #1 Findings:

- Impact of M1 on smartphones
 - Break-off rate declined: 29.8% to 20.7%
 - Shorter duration: 8.84 to 7.2 minutes
 - Rated higher on “easy to complete” by .7%*
- Impact of M1 on desktops
 - Break-off rate increased: 6.7% to 7.2%
 - Shorter duration: 9.25 to 8.29 minutes*
 - Rated lower on “professional look” by .4%*
 - Many comments on scrolling
- Minimal impact found in means comparison



Experiment #2: Methods

- Web design assigned randomly
 - 65% standard
 - 35% responsive web design (RWD)
- Device chosen by respondent
- Post-survey evaluation items
- Analyze break-off rate, duration times, response distribution




Experiment #2: Administration

- Student survey on campus transportation
 - Field period: fall 2014
 - Sample size: 35,689
 - Faculty, staff, students
 - Average duration: 7.1 minutes
 - Response rate: 38% (RR2)
 - Smartphone component: 16.3%
 - Students: 24%

Experiment #2: Standard Design

Desktop:

← → ↻ https://survey.indiana.edu/tpac14/test/main_STUDENT/6/view.cfm?sectionList=main_STUDENT,test ★


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2014 Transportation Demand Management Survey

How would you rate the following?

	Extremely dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Extremely satisfied	No opinion
IUB Campus Bus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bloomington Transit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural Transit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parking at IUB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zipcar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zimride	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disability Services for Students Van	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


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Smartphone:

Verizon 12:57 PM survey.indiana.edu


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2014 Transportation Demand Management Survey

How would you rate the following?

	Extremely dissatisfied	Dissatisfied	Dis
IUB Campus Bus	<input type="radio"/>	<input type="radio"/>	
Bloomington Transit	<input type="radio"/>	<input type="radio"/>	
Rural Transit	<input type="radio"/>	<input type="radio"/>	
Parking at IUB	<input type="radio"/>	<input type="radio"/>	
Zipcar	<input type="radio"/>	<input type="radio"/>	

Experiment #2: RWD

Desktop:

2014 Transportation Demand Management Survey

How would you rate the following?

IUB Campus Bus

Extremely dissatisfied Dissatisfied Neither satisfied nor dissatisfied Satisfied Extremely satisfied No opinion

Bloomington Transit

Extremely dissatisfied Dissatisfied Neither satisfied nor dissatisfied Satisfied Extremely satisfied No opinion

Rural Transit

Extremely dissatisfied Dissatisfied Neither satisfied nor dissatisfied Satisfied Extremely satisfied No opinion

Parking at IUB

Extremely dissatisfied Dissatisfied Neither satisfied nor dissatisfied Satisfied Extremely satisfied No opinion

Zipcar

Extremely dissatisfied Dissatisfied Neither satisfied nor dissatisfied Satisfied Extremely satisfied No opinion

Smartphone:

Management Survey

How would you rate the following?

IUB Campus Bus

Extremely dissatisfied

Dissatisfied

Neither satisfied nor dissatisfied

Satisfied

Extremely satisfied

No opinion



Experiment #2 Findings:

- Impact of RWD on smartphones
 - Break-off rate declined: 17.0% to 15.2%
 - Shorter duration: 7.35 to 7.25 minutes
 - Rated higher on all evaluation items
- Impact of RWD on desktops
 - Break-off rate increased: 5.4% to 6.8%*
 - Shorter duration: 7.27 to 6.72 minutes*
 - Rated higher on all evaluation items*
- Minimal impact on response distribution

* = Statistically significant at $p < 0.05$



Summary

- While our mobile first design performed well for smartphone users, most improvements were not significant, and the design rated lower with desktop users.
- Our responsive web design scored better with both device groups, but desktop breakoffs were still an issue.



Future Research

- Impact on longer studies
- Different sample make-up
- Item non-response analysis
- Evaluation feedback from non-respondents
- Usability testing on response buttons, visual hierarchy, and other elements