

# **iPod Usage Study**

## **Quantitative Research Report**

Prepared for Apple iPod Team  
December 4, 2015



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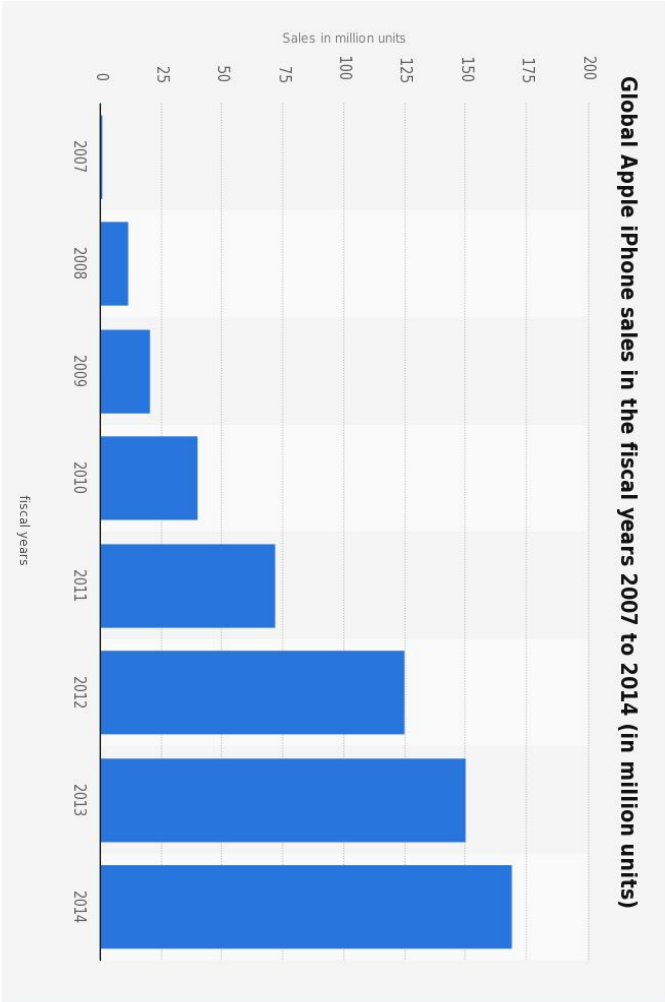
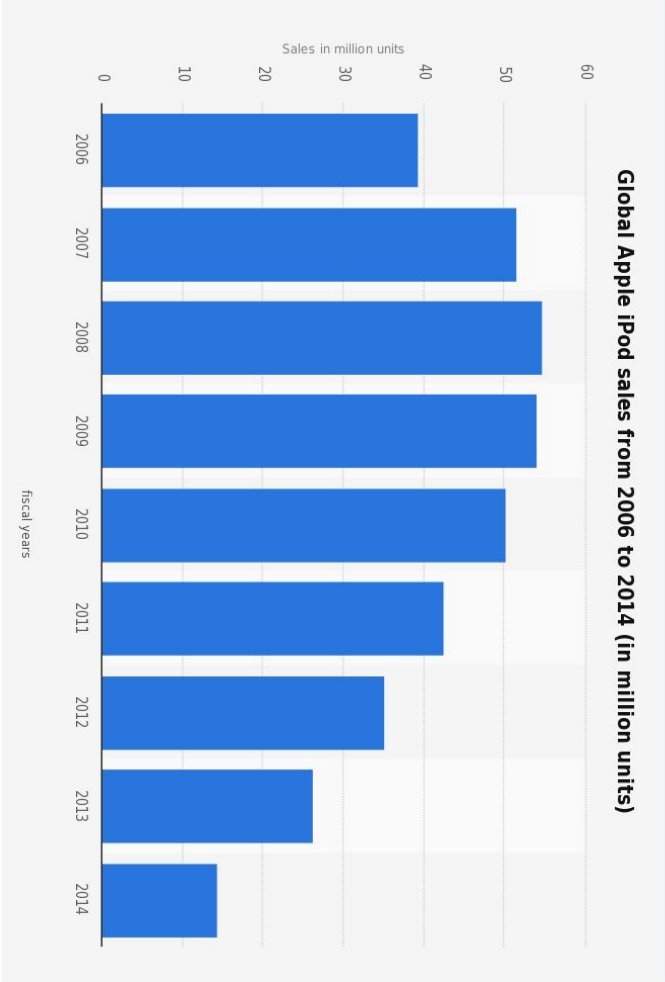
Maya  
Porter

# Background: History of the iPod

- 1997: iPod development started
- Creators of iPod: Jon Rubinstein, Tony Fadell, Michael Dhuey and Jonathan Ive
- iPod product line: iPod Classic, iPod Shuffle, iPod Nano, iPod Touch
- Problem recognition by Apple CEO, Tim Cook



# Background: iPod vs. iPhone Sales



# Background: Album Sales vs. Music Streams



## TOTAL ALBUM SALES

(INCLUDES CD, CASSETTE, VINYL, & DIGITAL ALBUMS - IN MILLIONS)

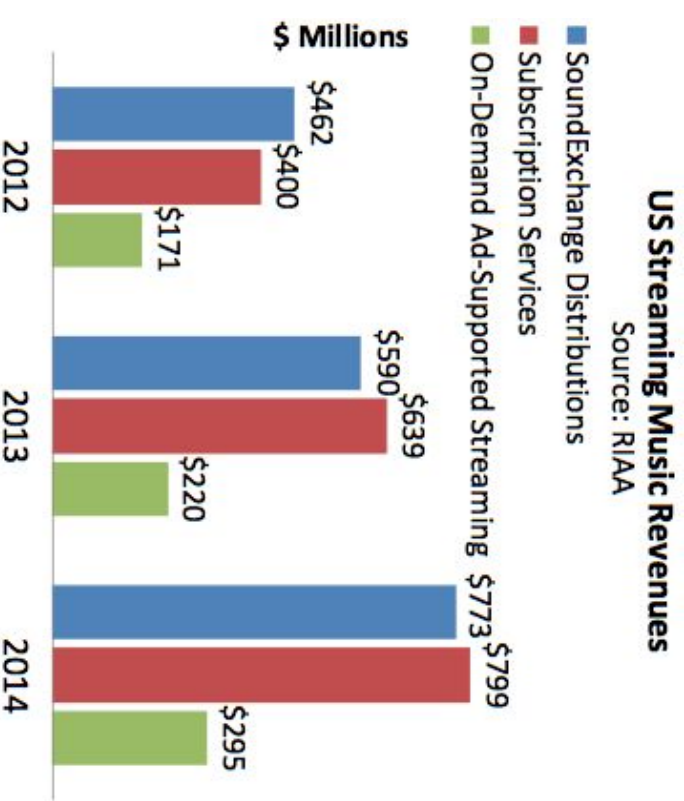
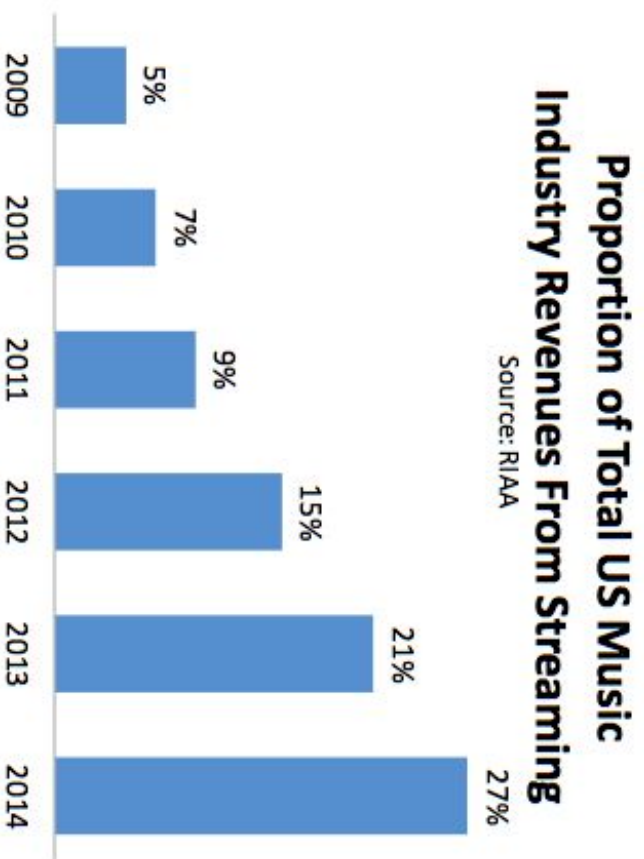
	<u>2014</u>	<u>2013</u>	<u>% CHG.</u>
TOTAL UNITS	257.0	289.4	-11.2%
CD	140.8	165.4	-14.9%
DIGITAL	106.5	117.6	-9.4%
LP/VINYL	9.2	6.1	+51.8%

## ON-DEMAND MUSIC STREAMS

(INCLUDES AUDIO + VIDEO DATA FROM AOL, BEATS, CRICKET, GOOGLE PLAY, MEDIANET, RADIO, RHAPSODY, SLACKER, SPOTIFY, XBOX MUSIC, YOUTUBE/VEVO - IN BILLIONS)

	<u>2014</u>	<u>2013</u>	<u>% CHG.</u>
STREAMS	163.9	106.1	+54.5%
AUDIO	78.6	49.0	+60.5%
VIDEO	85.3	57.1	+49.3%

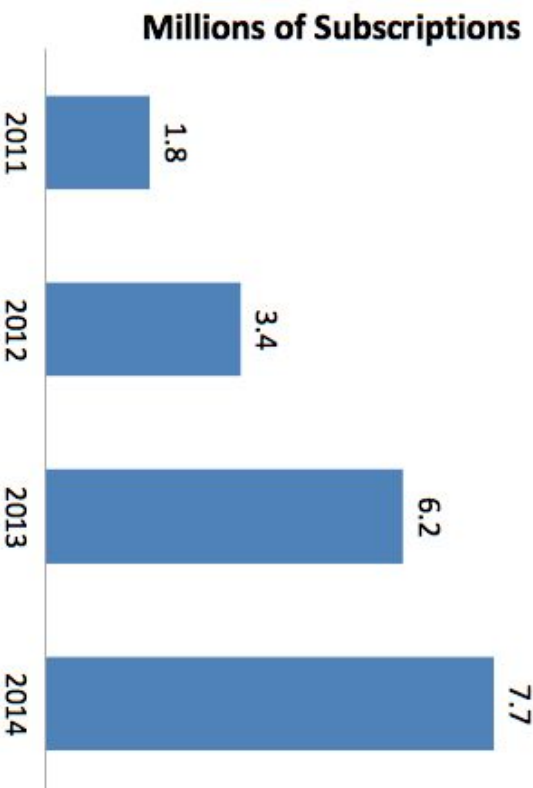
# Background: Streaming and Revenue



# Background: Revenue

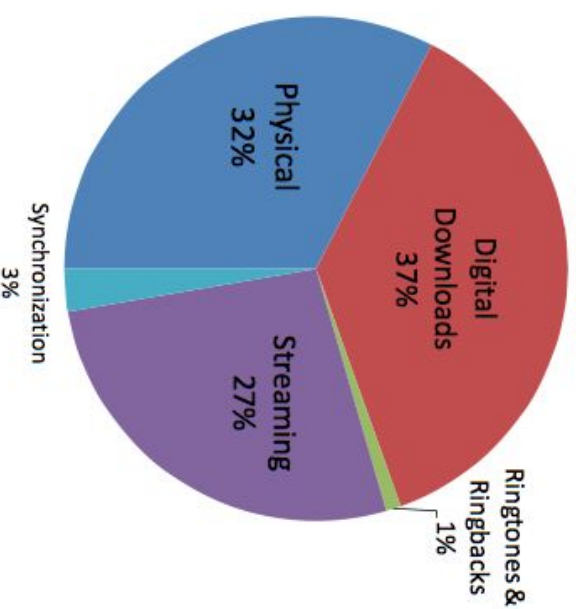
## US Paid Subscriptions

Source: RIAA



## US Music Industry Revenues 2014

Source: RIAA



The number of paid subscriptions to on-demand music services in the United States more than tripled since 2011. In 2014, paid subscriptions grew 26% year-over-year to 7.7 million.

# Research Objectives & Hypotheses

## Objective One:

How many Smartphone owners also own the iPod?

## Hypothesis One:

H<sub>0</sub>: Smartphone users do not own the iPod

H<sub>a</sub>: Smartphone users do own the iPod

# Research Objectives & Hypotheses

Objective Two:

How are Apple products acquired by users?

Hypothesis Two:

$H_0$ : Apple products are commonly purchased by the users themselves

$H_a$ : Apple products are commonly gifted to the end users



# Research Objectives & Hypotheses

## Objective Three:

Determine the relationship between the frequency of iPod usage for listening to music and the frequency of Smartphone usage.

## Hypothesis Three:

H<sub>0</sub>: iPods are used more often than Smartphones for listening to music

H<sub>a</sub>: Smartphones are used more often than iPods for listening to music

# Research Objectives & Hypotheses

## Objective Four:

Identify the situational circumstances for usage of the iPods and Smartphones for the purpose of listening to music

## Hypothesis Four:

H<sub>0</sub>: iPods and Smartphones are utilized more when listening to music during inactive situations (sleeping, commuting, etc)

H<sub>a</sub>: iPods and Smartphones are utilized more when listening to music during active situations (gym, running, etc)

# Research Objectives & Hypotheses

## Objective Five A:

Which existing features are important in the decision between iPod vs. Smartphone while listening to music?

## Hypothesis Five A:

H<sub>0</sub>: The all-inclusiveness of the device has no impact on the influence of inactive and active iPod users

H<sub>a</sub>: The all-inclusiveness of the device (phone calls, data usage) is the most important feature in the decision of choosing which device to listen music on

# Research Objectives & Hypotheses

Objective Five B:

Which features are desired by users in the market that do not already exist today?

Hypothesis Five B:

H<sub>0</sub>: Users are satisfied with their music listening devices and there is no strong desire for any new features

H<sub>a</sub>: Noise-cancelling technology is the most desired feature in the market that does not already exist

# Research Objectives & Hypotheses

Objective Six:

What are the crucial purchasing criteria when purchasing an iPod or a Smartphone?

Hypothesis Six:

H<sub>0</sub>: All criteria are equally weighed when considering whether or not to purchase an iPod or not

H<sub>a</sub>: The most crucial purchasing criterion when considering whether or not to purchase an iPod or not, is the cost

# Study Design

**Population of interest:** People that listen to music on portable devices

**Data collection method:** Self-administered questionnaire (Qualtrics)

**Sample design error:** To minimize population specification error, we have spent extensive time studying people that listen to music on portable devices before sampling

**Measurement error:** To minimize surrogate information error, we will pay more careful attention to specification of the types of information required to fulfill the objectives of our research

# Study Design



## **Sampling frame:**

D'Amore McKim student email list  
in combination with EnGauge  
Team's Facebook friend lists

## **Sampling Method:**

Snowball sampling

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# Study Design

**Response rate:** 20%

We plan to reach out to 500 NU students. We expect to receive responses from at least 100 students.

**How we can increase our response rate:**

- Advanced notification about survey to 500 students
- Send reminder notifications to solicit participation



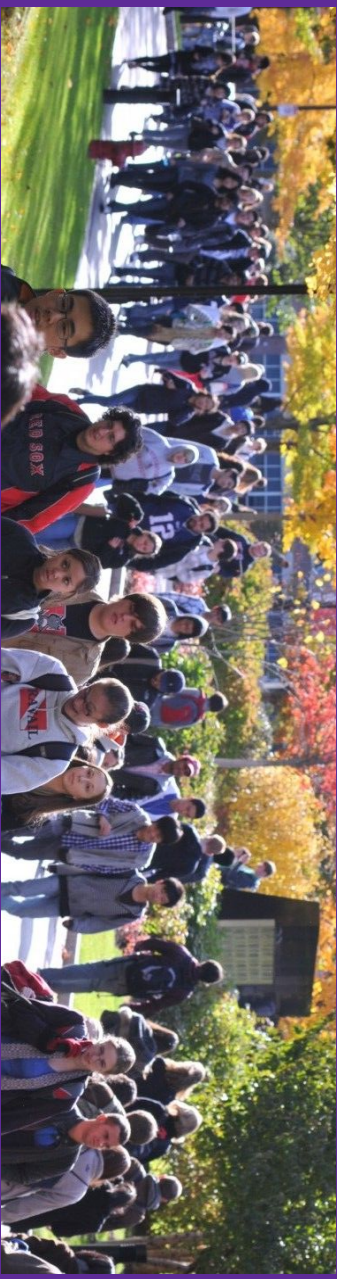
# Study Design

**Ideal type of survey:** A traditional face-to-face data collection (focus group) encompassing all people who listen to music on a portable device worldwide.

**Type of survey we will use:** Due to limited time and funds, we will conduct a targeted online Qualtrics quantitative self administered survey.



# Study Design



**Length of questionnaire:** 5-10 minutes

**Expected incidence rate:** 85%; 11,484 students

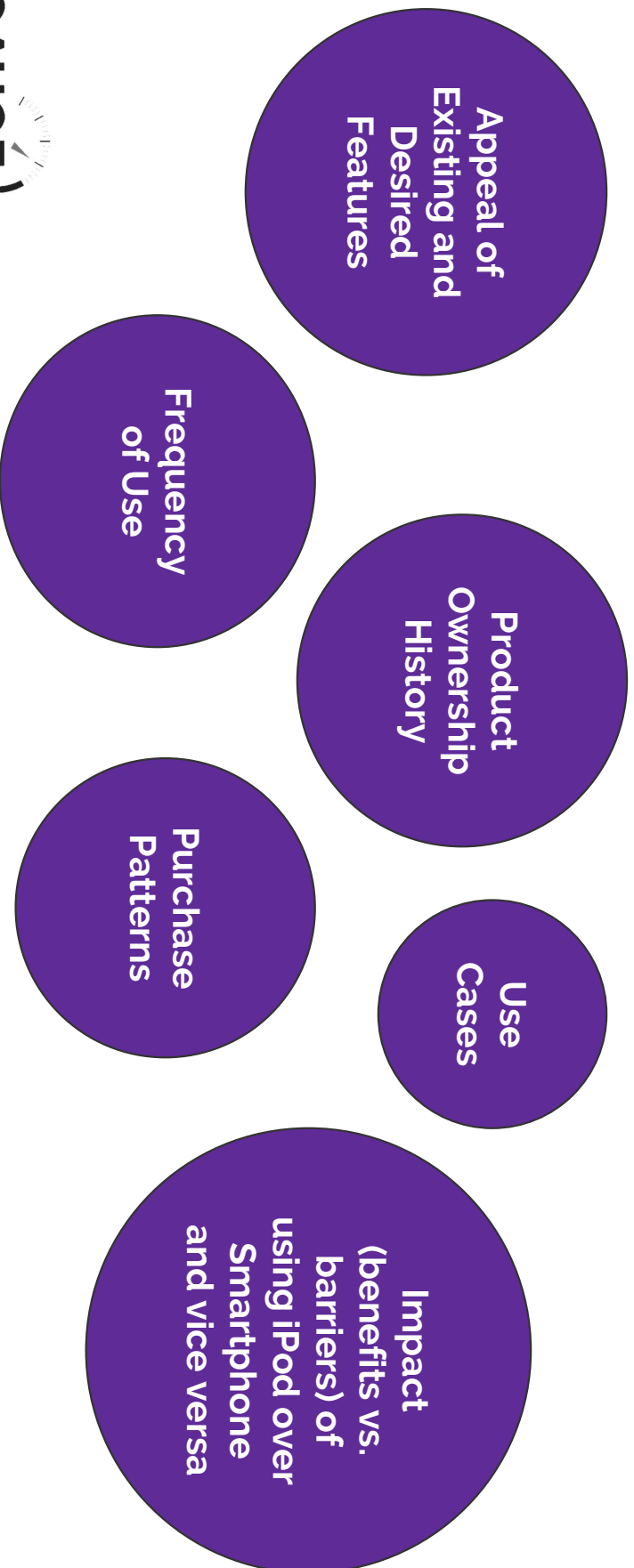
(11,484 is 85% of the total number of enrolled Northeastern undergraduates, 13,510. 85% of college students own Smartphones according to Pearson Student Mobile Device Survey 2015.)

**Structured:** Structured

**Expected data collection time needed:** 2 weeks (10 business days)

# Areas of Questioning

EnGauge worked collaboratively with the Apple iPod Division in developing the questionnaire. Survey topics included:



# Areas of Questioning

## 1. Product ownership history

- a. Do you own a Smartphone?
  - i. Yes/No
- b. What brand of Smartphone do you own?
  - i. Apple, Samsung, Android, HTC, Motorola, Nokia, Blackberry, LG, Other
- c. Do you own an iPod
  - i. Yes/No



**Q1 of 2011:** Apple sold almost 20 million iPods.  
**Q4 of 2012:** Apple sold just over 5 million.

"That's despite a huge revamp of the line and a range of new colours for the 2012 iPod nano."

## 2. Product purchase patterns

- a. If you no longer had an iPod, how unlikely or likely is it you would buy another?
  - i. On a scale of 1-7: 1 = Very Unlikely, 7 = Very Likely
- b. Have you purchased an iPod in the past 5 years?
  - i. Yes/No

# Areas of Questioning

## 3. Frequency of use

- a. In the past 3 months, indicate how frequently or infrequently you have used your Smartphone to listen to music.
  - i. 1-5; 1= Never (0 times), 5= All the time (every day)
- b. In the past 3 months, indicate how frequently you have used your iPod to listen to music.
  - i. 1-5; 1= Never (0 times), 5= All the time (every day)

## 4. Use cases

- a. Please indicate the device you would choose to use for listening to music in the given situations (Smartphone, iPod, Other, or "I would not listen to music").
  - ii. Going for a run, at the gym, doing homework/studying, walking somewhere, during commute (car, bus or train), traveling on a plane, trying to fall asleep, entertaining guests

# Areas of Questioning

## 5. Appeal of existing and desired features

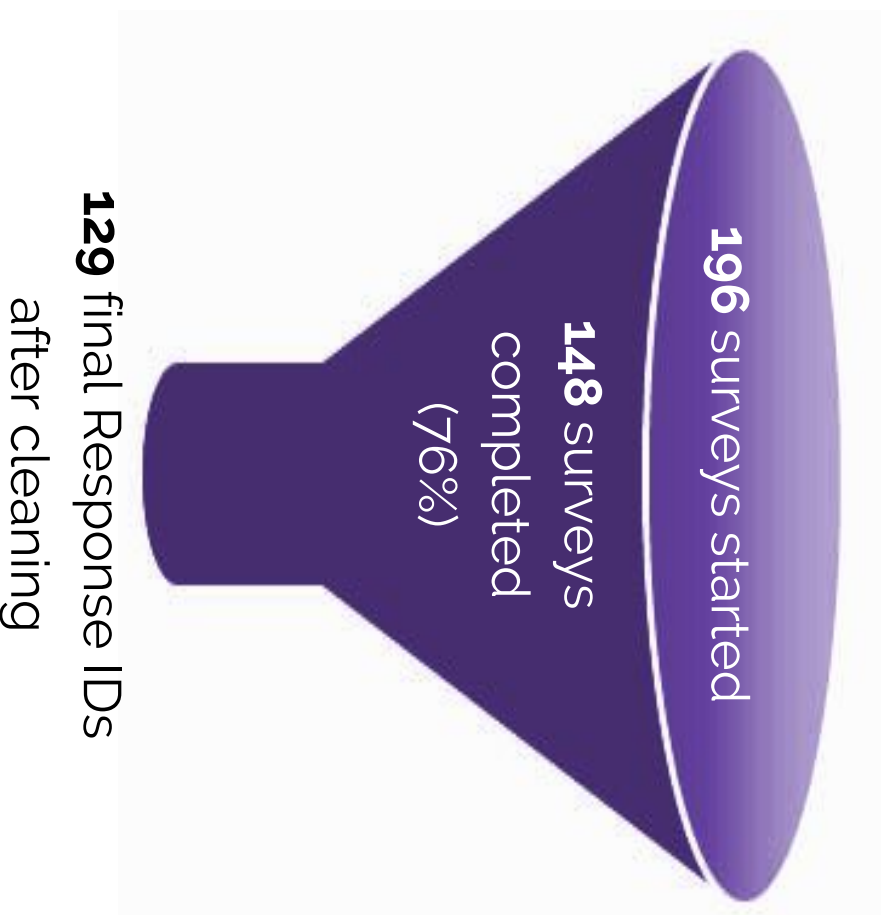
- a. How important or unimportant are the following features in influencing your decision on whether or not to use a Smartphone to listen to music? (1= least important; 5= most important)
  - i. Battery life, cost, data plan, size, screen resolution, ability to call and text, camera, ability to use music streaming services
- b. How important or unimportant are the following features in influencing your decision on whether or not to use a Smartphone to listen to music? (1= least important; 5= most important)
  - i. Battery life, cost, size, weight, storage capacity
- c. What features would you like to have on your music listening device that do not currently exist? (1= least desirable; 5= most desirable)
  - i. Built-in radio, cable access, walkie-talkie, music editing software, and more

# Areas of Questioning

6. Impact (benefits vs. barriers) of using iPod over Smartphone and vice versa
  - a. Which device is better for listening to music?
    - i. iPod, Smartphone, Other
  - b. iPods are better than Smartphones because of the...
    - i. Check the reasons most important to you.
  - c. Smartphones are better than iPods because of the...
    - i. Check the reasons most important to you.

# Description of Data Collection Process

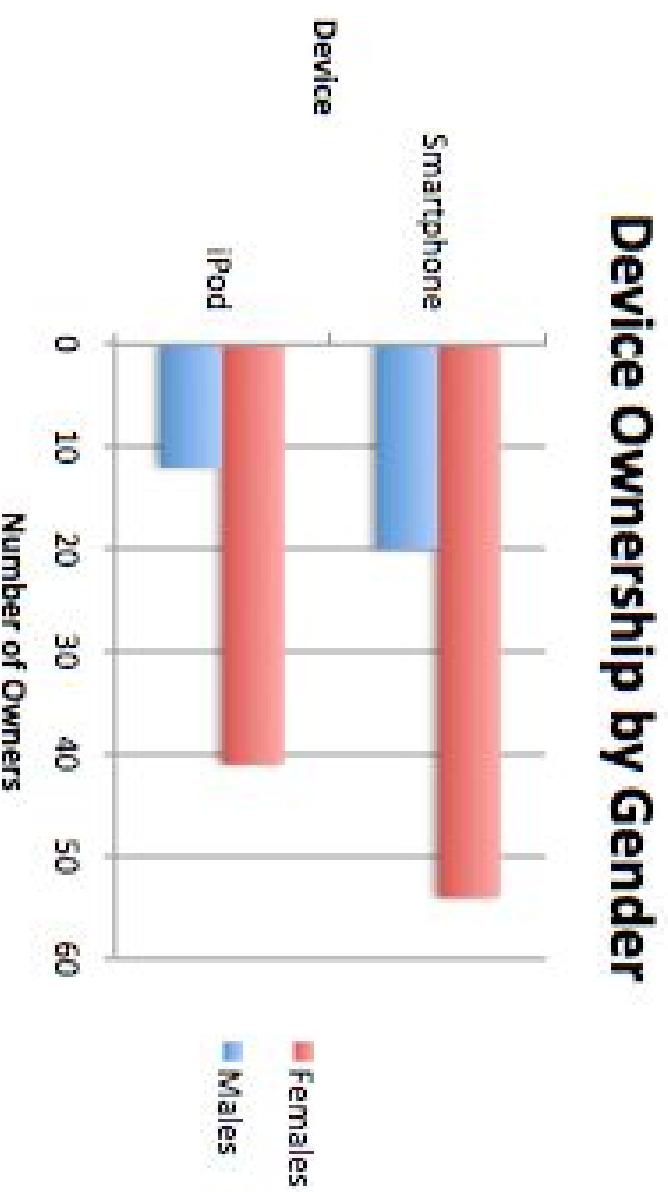
To obtain respondents, we reached out to the D'Amore McKim student email list in combination with EnGauge employees' Facebook communities.





# Analysis and Results: Objectives Answered

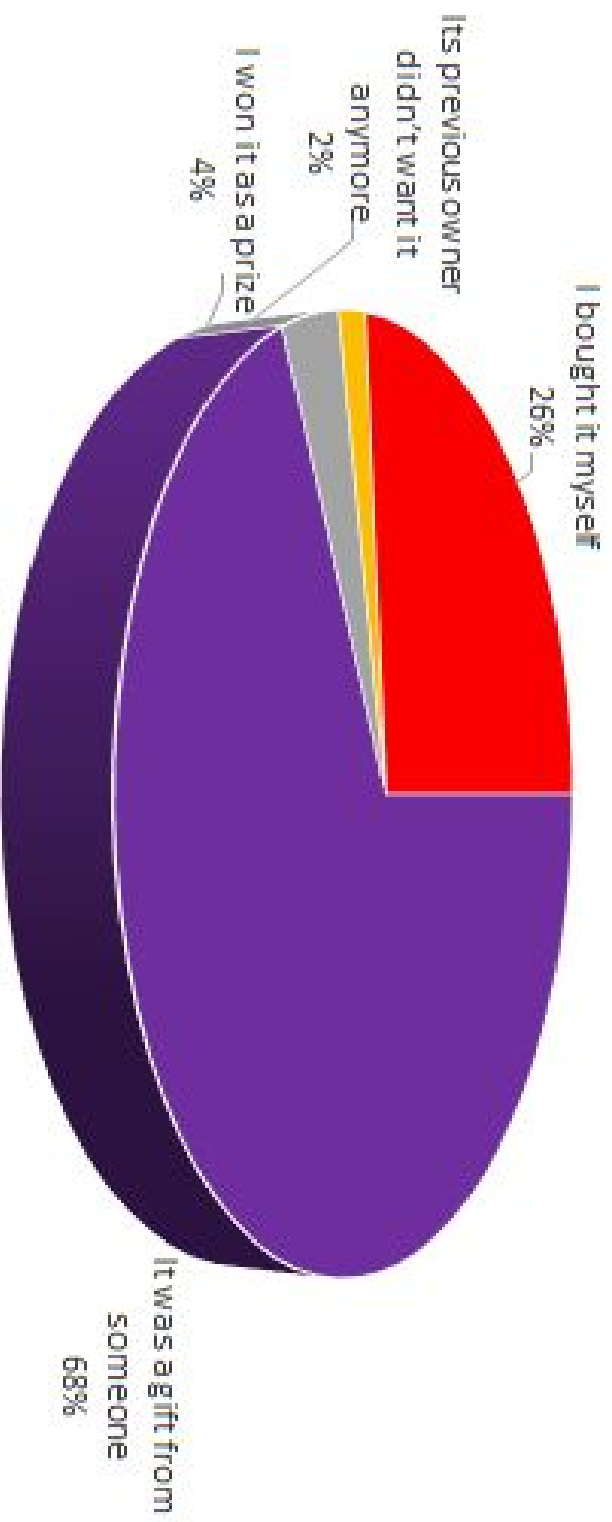
How many Smartphone users are also iPod users?



# Analysis and Results: Objectives Answered

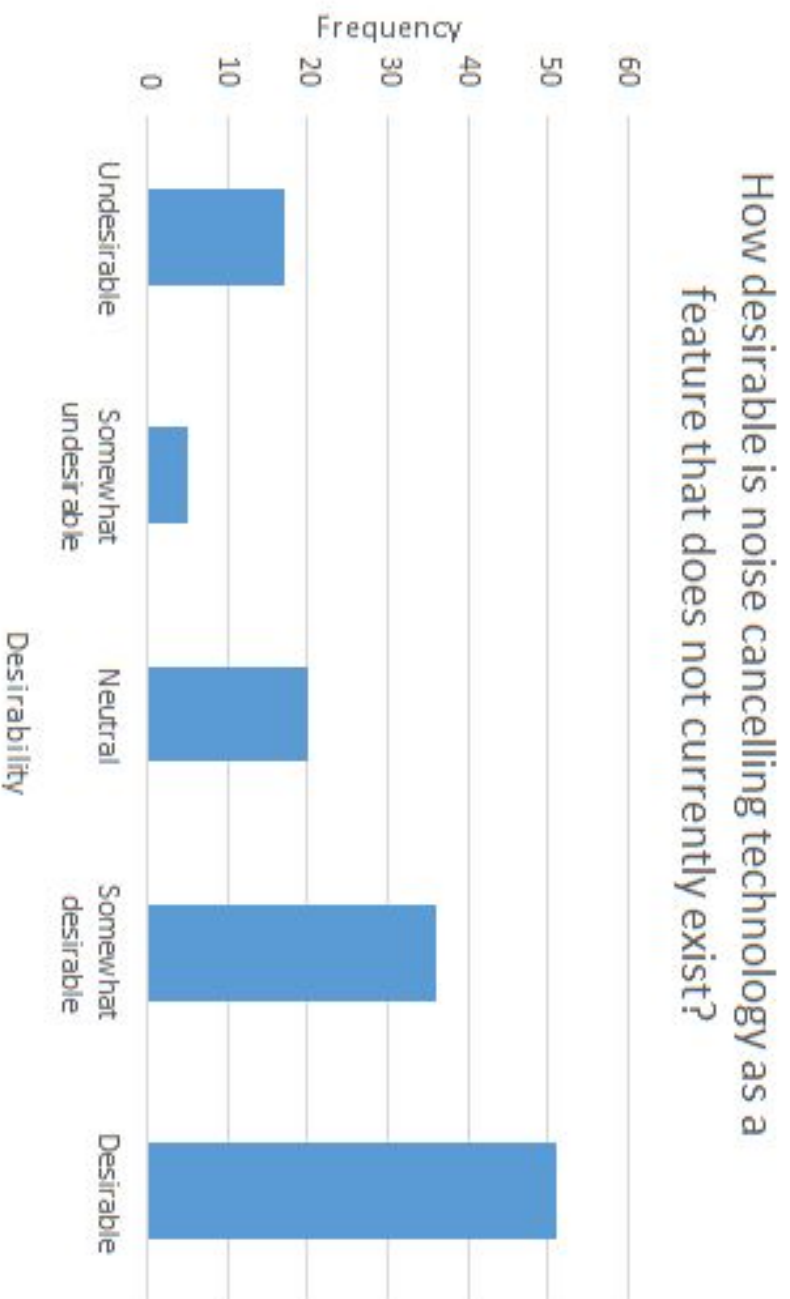
How are Apple products acquired?

How did you get your iPod?



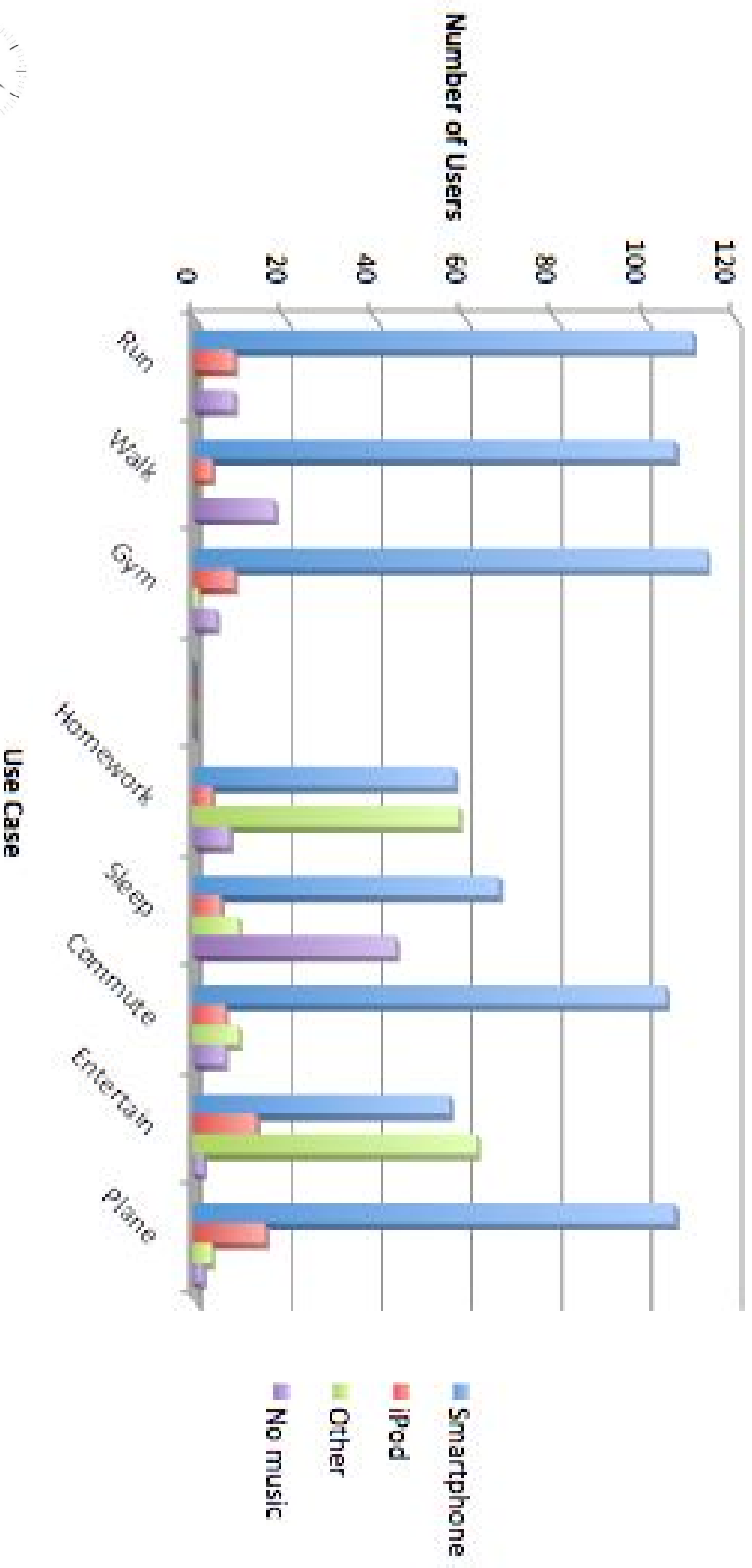
# Analysis and Results: Objectives Answered

Which nonexistent features are desired by users in the market?



# Analysis and Results: Objectives Answered

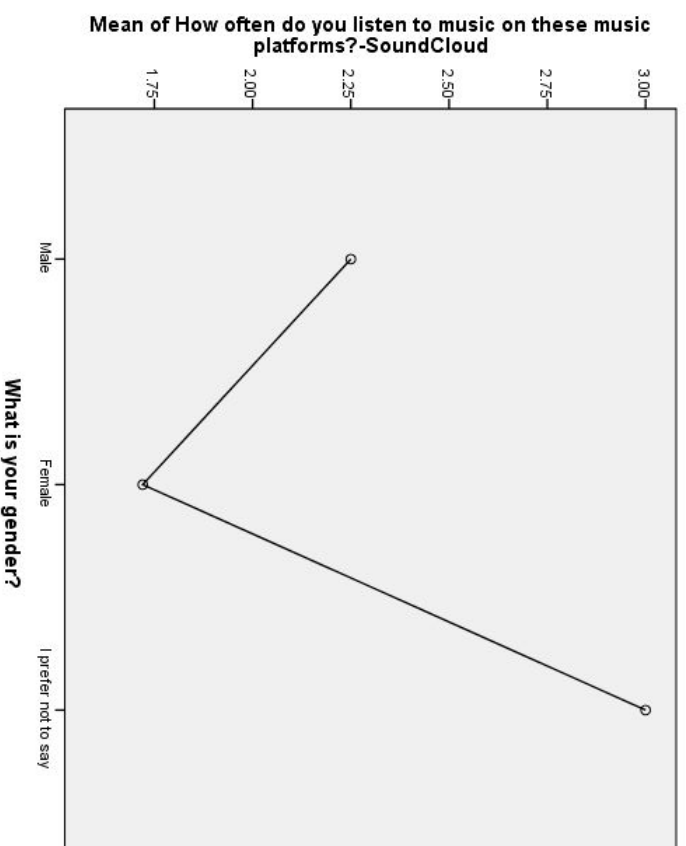
Identify the situational circumstances for usage of the iPods and Smartphones



# ANOVA: Gender Preference for SoundCloud

Identifying the gender preference for listening to music on a particular platform

**Conclusion:** With a statistical significance of 0.018, males listen to music on SoundCloud more than females do.

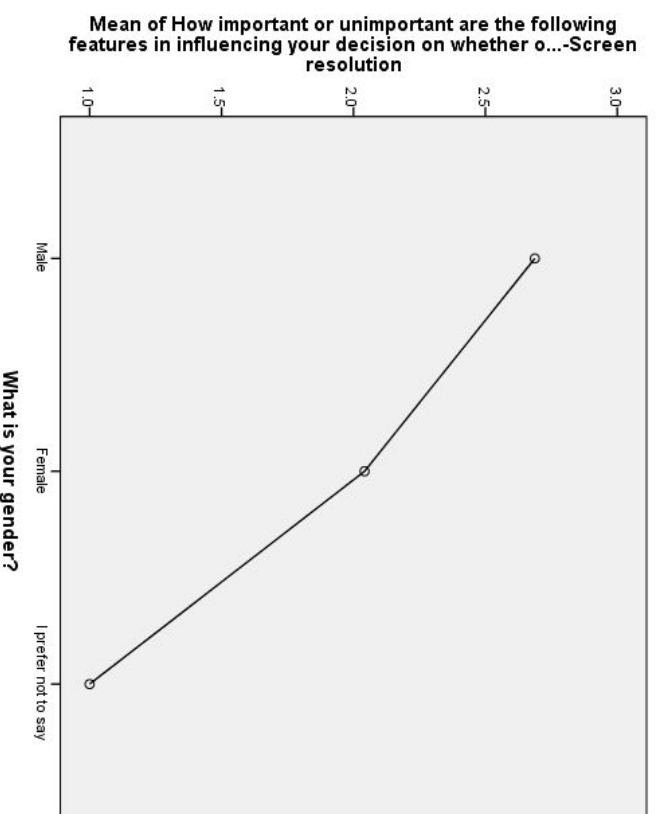


See Page 54 for  
SPSS Output

# ANOVA: Gender Preference for Features

Identifying the gender preference of important features in the decision to purchase a Smartphone

**Conclusion:** *When buying a Smartphone, males hold screen resolution quality to a higher importance than females do.*



See Page 50 for  
SPSS Output

# Factor Analysis (See Page 44)

## Factor 1: Functionality

- How important or unimportant is the **camera** in influencing your decision on whether or not to use a smartphone to listen to music?
- How important or unimportant are the **ability to call/text** in influencing your decision on whether or not to use a smartphone to listen to music?
- How important or unimportant is **screen resolution** in influencing your decision on whether or not to use a smartphone to listen to music?

## Factor 2: Old-fashioned

- How often do you listen to music on a MP3?
- In the past 3 months, indicate how frequently or infrequently you use your iPod to listen to music?

## Factor 3: Music Streaming

- How often do you listen to music on your Smartphone?
- How important or unimportant are music streaming services in influencing your decision on whether or not to use a Smartphone to listen to music?

# Cluster Analysis (See Page 45)

*Conclusions and interpretations of Cluster Analysis*



**Cluster 1:** Simpletons, **Cluster 2:** Techies, **Cluster 3:** Dinosaurs

- Simpletons are not old fashioned, values functionality the least, and values moderately on music streaming compared to the other clusters
- The techies were least old fashioned, they had the highest value for functionality and music streaming
- The Dinosaurs had highest in old fashioned and had lowest value on music streaming and lowest in music streaming (since old fashion was defined by how often.. listen to ipod and mp3, we believe that people in cluster three might prefer having music locally, downloaded onto their device)



# Managerial Recommendations & Conclusions



New features are recommended.

## Noise-Canceling Technology

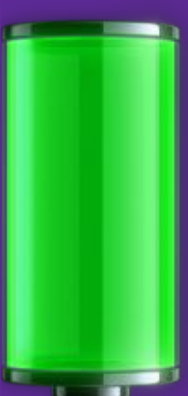
Include complementary noise-canceling with

iPods and iPhones



## Removable Battery

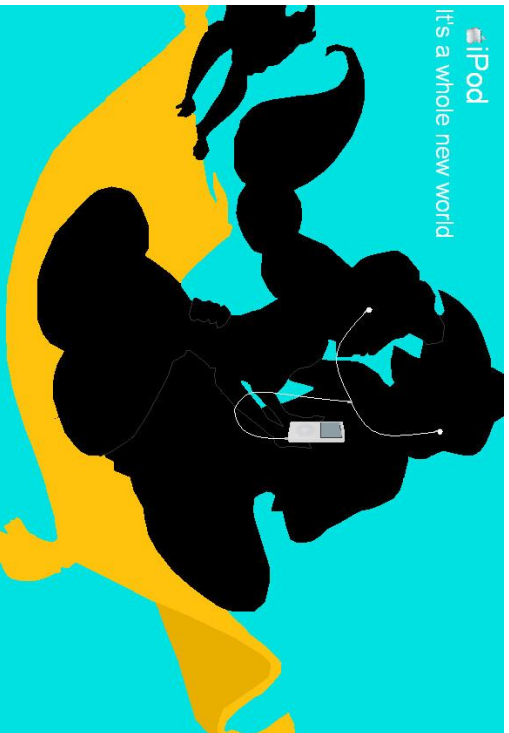
Add the possibility of carrying back-up batteries without having to rely on finding outlets



# Managerial Recommendations & Conclusions



## A whole new world for iPod.



A new marketing focus: Parents & Children

Kids ages 7-13 who do not possess Smartphones

Parents will give iPods as gifts

Partnership with Disney

# Appendix A: SPSS Output

# Devices

# People Were Often Gifted iPods

How did you get your iPod? \* What is your gender?

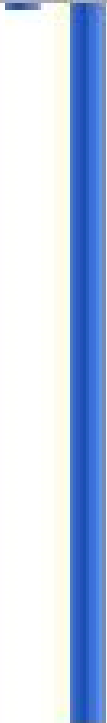
Crosstab

Count

	What is your gender?		Total
	Male	Female	
How did you get your iPod?			
It was a gift from someone	9	27	36
I won it as a prize	1	1	2
Its previous owner didn't want it anymore	0	1	1
I bought it myself	2	12	14
Total	12	41	53

# Smartphones are Overwhelmingly Popular

1. Do you own a Smartphone?

#	Answer		Response	%
1	<u>Yes</u>		189	99%
2	<u>No</u>		2	1%
	Total		191	100%

# Gender Is A Factor in Frequency of Music Listening for iPods, Smartphones, and Radios

In the past 3 months, indicate how frequently or infrequently you use your iPod to listen to music.	Between Groups	5.035	1	5.035	3.968	.051
	Within Groups	68.519	54	1.269		
	Total	73.554	55			
How often do you listen to music on these music devices?-- Smartphone	Between Groups	4.634	2	2.317	2.618	.077
	Within Groups	111.506	126	.885		
	Total	116.140	128			
How often do you listen to music on these music devices?--Radio	Between Groups	6.075	2	3.037	2.435	.092
	Within Groups	153.425	123	1.247		
	Total	159.500	125			

\*Please note significance is at 10% alpha for all

# Bivariate Correlation

- The more frequent iPod users listen to music on their iPod, the more likely they are to buy another
- These two variables share a positive relationship

Correlations		
	If you no longer had an iPod, how unlikely or likely is it you would buy another?	In the past 3 months, indicate how frequently or infrequently you use your iPod to listen to music.
If you no longer had an iPod, how unlikely or likely is it you would buy another?	1  Pearson Correlation Sig. (2-tailed) N 53	<b>.646**</b>  .000 53
In the past 3 months, indicate how frequently or infrequently you use your iPod to listen to music.	<b>.646**</b> .000 53	1  56



# Our Respondents

# Women Primarily Filled Out Our Survey

What is your gender?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	32	24.8	24.8	24.8
Female	95	73.6	73.6	98.4
I prefer not to say	2	1.6	1.6	100.0
Total	129	100.0	100.0	

# Non-Hispanic Whites Primarily Participated In Our Survey

Please indicate your race/ethnicity.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Hawaiian or Other Pacific Islander	1	.8	.8	.8
Asian or Asian American	11	8.5	8.5	9.3
Black or African American	4	3.1	3.1	12.4
Hispanic or Latino	5	3.9	3.9	16.3
Non-Hispanic White	96	74.4	74.4	90.7
Two or More Races	7	5.4	5.4	96.1
I prefer not to say	5	3.9	3.9	100.0
Total	129	100.0	100.0	

# Factor Analysis

Naming the three components:

- 1. Functionality
- 2. Old Fashioned
- 3. Music Streaming

Rotated Component Matrix<sup>a</sup>

	Component		
	1	2	3
How important or unimportant are the following features in influencing your decision on whether o...-Screen resolution	.762		
How important or unimportant are the following features in influencing your decision on whether o...-Ability to call and text	.881		
How important or unimportant are the following features in influencing your decision on whether o...-Camera	.903		
How often do you listen to music on these music devices?-Smartphone			.792
How important or unimportant are the following features in influencing your decision on whether o...-Ability to use music streaming services (like Spotify, Pandora, or 8tracks, for example)			.842
How often do you listen to music on these music devices?-MP3 Player		.921	
In the past 3 months, indicate how frequently or infrequently you use your iPod to listen to music.		.910	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

# Cluster Analysis

Final Cluster Centers			
	Cluster		
	1	2	3
OldFashioned	-.24	-.31	2.52
Functionality	-.76	.67	.16
MusicStreaming	-.20	.28	-.67

Number of Cases in each Cluster		
Cluster	1	56.000
Valid	2	62.000
	3	8.000
Valid		126.000
Missing		3.000

# Features

# People Value the Ability to Stream Music

How important or unimportant are the following features in influencing your decision on whether o...-Ability to use music streaming services (like Spotify, Pandora, or 8tracks, for example)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	4	3.1	3.1	3.1
2	8	6.2	6.2	9.3
3	8	6.2	6.2	15.5
4	33	25.6	25.6	41.1
5	76	58.9	58.9	100.0
Total	129	100.0	100.0	

# People Value Battery Life

How important or unimportant are the following features in influencing your decision on whether o...- Battery Life

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	3	2.3	2.3	2.3
2	8	6.2	6.2	8.5
3	19	14.7	14.7	23.3
4	46	35.7	35.7	58.9
5	53	41.1	41.1	100.0
Total	129	100.0	100.0	



# People Are Interested in Noise Cancelling Technology

What features would you like to have on your music listening device that do not currently exist?...-Noise-cancelling technology (removes background noises to ensure delivery of music to your ear drums in the clearest manner)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
1	17	13.2	13.2	13.2
2	5	3.9	3.9	17.1
3	20	15.5	15.5	32.6
4	36	27.9	27.9	60.5
5	51	39.5	39.5	100.0
Total	129	100.0	100.0	



# Gender Impacts Opinions of Screen Resolution and Size

How important or unimportant are the following features in influencing your decision on whether o...-Size	Between Groups	8.533	2	4.266	2.886	<b>.060</b>
	Within Groups	184.772	125	1.478		
	Total	193.305	127			
How important or unimportant are the following features in influencing your decision on whether o...-Screen resolution	Between Groups	12.828	2	6.414	4.626	<b>.012</b>
	Within Groups	174.707	126	1.387		
	Total	187.535	128			

\*Please note significance is at 10% alpha for size

# Size and Screen Resolution Matters More to Males When Compared to Females

How important or unimportant are the following features in influencing your decision on whether o...-Size	Male	Female						
	I prefer not to say	I prefer not to say						
			.465	.249	.064	-.03	.96	
		I prefer not to say	1.656	.886	.064	-.10	3.41	
	Female	Male	-.465	.249	.064	-.96	.03	
		I prefer not to say	1.191	.869	.173	-.53	2.91	
	I prefer not to say	Male	-1.656	.886	.064	-3.41	.10	
		Female	-1.191	.869	.173	-2.91	.53	

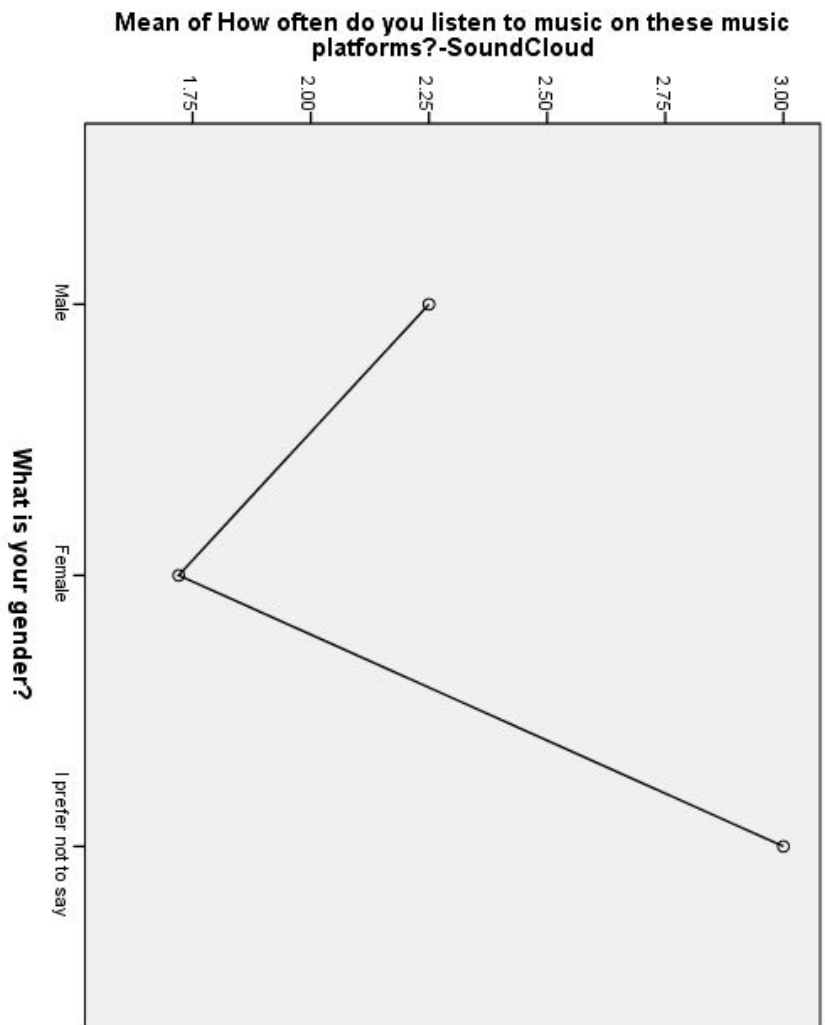
How important or unimportant are the following features in influencing your decision on whether o...-Screen resolution	Male	Female						
	I prefer not to say	I prefer not to say						
			.645*	.241	.008	.17	1.12	
		I prefer not to say	1.688	.858	.051	-.01	3.39	
	Female	Male	-.645*	.241	.008	-1.12	-.17	
		I prefer not to say	1.042	.841	.218	-.62	2.71	
	I prefer not to say	Male	-1.688	.858	.051	-3.39	.01	
		Female	-1.042	.841	.218	-2.71	.62	

\*Please note significance is at 10% alpha for size

# Streaming

How often do you listen to music on these music platforms?-SoundCloud						
Male	Female					
	I prefer not to say	.530 <sup>*</sup>	.221	.018	.09	.97
Female	Male	-.750	.787	.343	-2.31	.81
I prefer not to say	I prefer not to say	-.530 <sup>*</sup>	.221	.018	-.97	-.09
	Male	-1.280	.772	.100	-2.81	.25
	Female	.750	.787	.343	-.81	2.31
		1.280	.772	.100	-.25	2.81

Males Listen to SoundCloud More Than Females



# Males Listen to SoundCloud More Than Females

How often do you listen to music on these music platforms?- SoundCloud	Between Groups	9.253	2	4.627	3.964	.021
	Within Groups	144.731	124	1.167		
	Total	153.984	126			

How often do you listen to music on these music platforms?- SoundCloud	Male	Female I prefer not to say	.530*	.221	.018	.09	.97
			-.750	.787	.343	-2.31	.81
	Female	Male I prefer not to say	-.530*	.221	.018	-.97	-.09
			-1.280	.772	.100	-2.81	.25
	I prefer not to say	Male Female	.750	.787	.343	-.81	2.31
			1.280	.772	.100	-.25	2.81

\*Please note significance is at 10% alpha for female/prefer not to say

# Popular Brands ≠ Popular Streaming Services

How often do you listen to music on these music platforms?–Apple Music

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	99	76.7	78.6	78.6
Never (0 times)				
Rarely (about once a month)	13	10.1	10.3	88.9
Sometimes (about once a week)	5	3.9	4.0	92.9
Often (3–5 times a week)	7	5.4	5.6	98.4
All of the Time (every day)	2	1.6	1.6	100.0
Total	126	97.7	100.0	
Missing System	3	2.3		
Missing Total	129	100.0		

How often do you listen to music on these music platforms?–Amazon Prime Music

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	119	92.2	96.7	96.7
Never (0 times)				
Rarely (about once a month)	2	1.6	1.6	98.4
Sometimes (about once a week)	1	.8	.8	99.2
All of the Time (every day)	1	.8	.8	100.0
Total	123	95.3	100.0	
Missing System	6	4.7		
Missing Total	129	100.0		

How often do you listen to music on these music platforms?–Google Play Music

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	122	94.6	97.6	97.6
Never (0 times)				
Rarely (about once a month)	2	1.6	1.6	99.2
All of the Time (every day)	1	.8	.8	100.0
Total	125	96.9	100.0	
Missing System	4	3.1		
Missing Total	129	100.0		



# Males Prefer Free Online Downloads When Compared to Females

How often do you listen to music on these music platforms?—Free online downloads	Between Groups				
Within Groups	8.406	2	4.203	2.888	.059
Total	180.445	124	1.455		
	188.850	126			

How often do you listen to music on these music platforms? -Free online downloads	Male	Female				
		I prefer not to say	.489	.247	.050	.00
			-.813	.879	.357	-2.55
						.93
	Female	Male	-.489	.247	.050	-.98
		I prefer not to say	-1.301	.862	.134	-3.01
						.41
	I prefer not to say	Male	.813	.879	.357	-.93
		Female	1.301	.862	.134	-.41
						2.55
						3.01

\*Please note significance is at 10% alpha for males compared to females

# Preferred Library Floor Impacts Pandora Usage

How often do you listen to music on these music platforms?– Pandora	Between Groups Within Groups Total	12.750 160.557 173.307	4 122 126	3.188 1.316	2.422	.052	
How often do you listen to music on these music platforms?– Pandora	First floor	Second floor					
	Third floor	Fourth floor					
	I do not go to Snell library	I do not go to Snell library					
	Second floor	First floor	.575	.480	.233	-.38	1.53
	Third floor	Fourth floor	-.132	.428	.758	-.98	.72
	I do not go to Snell library	I do not go to Snell library	-.625	.515	.228	-1.65	.40
			-.154	.492	.754	-1.13	.82
	Second floor	First floor	-.575	.480	.233	-1.53	.38
	Third floor	Fourth floor	-.707*	.291	.017	-1.28	-.13
	I do not go to Snell library	I do not go to Snell library	-1.200*	.409	.004	-2.01	-.39
			-.729	.378	.056	-1.48	.02
	Third floor	First floor	.132	.428	.758	-.72	.98
	Second floor	Fourth floor	.707*	.291	.017	.13	1.28
	I do not go to Snell library	I do not go to Snell library	-.493	.347	.158	-1.18	.19
			-.022	.311	.943	-.64	.59
	Fourth floor	First floor	.625	.515	.228	-.40	1.65
	Second floor	Fourth floor	1.200*	.409	.004	.39	2.01
	I do not go to Snell library	I do not go to Snell library	.493	.347	.158	-.19	1.18
			.471	.423	.268	-.37	1.31
	I do not go to Snell library	First floor	.154	.492	.754	-.82	1.13
	Second floor	Fourth floor	.729	.378	.056	-.02	1.48
	Third floor	Fourth floor	.022	.311	.943	-.59	.64
			-.471	.423	.268	-1.31	.37

\*Please note significance is at 10% alpha

# Preferred Library Floor Impacts Spotify Usage

How often do you listen to music on these music platforms? - Spotify	Between Groups	16.454	4	4.113	2.271	.066	
Within Groups	219.205	121	1.812				
Total	235.659	125					
How often do you listen to music on these music platforms? - Spotify	First floor	Second floor	-.375	.563	.507	-1.49	.74
		Third floor	-.465	.503	.358	-1.46	.53
		Fourth floor	-.452	.605	.456	-1.65	.75
		I do not go to Snell library	.569	.572	.321	-.56	1.70
	Second floor	First floor	.375	.563	.507	-.74	1.49
		Third floor	-.090	.343	.794	-.77	.59
		Fourth floor	-.077	.480	.873	-1.03	.87
		I do not go to Snell library	.944*	.437	.033	.08	1.81
	Third floor	First floor	.465	.503	.358	-.53	1.46
		Second floor	.090	.343	.794	-.59	.77
		Fourth floor	.013	.408	.975	-.79	.82
		I do not go to Snell library	1.034*	.357	.005	.33	1.74
Fourth floor	First floor	.452	.605	.456	-.75	1.65	
	Second floor	.077	.480	.873	-.87	1.03	
	Third floor	-.013	.408	.975	-.82	.79	
	I do not go to Snell library	1.021*	.490	.039	.05	1.99	
I do not go to Snell library	First floor	-.569	.572	.321	-1.70	.56	
	Second floor	-.944*	.437	.033	-1.81	-.08	
	Third floor	-1.034*	.357	.005	-1.74	-.33	
	Fourth floor	-1.021*	.490	.039	-1.99	-.05	

\*Please note significance is at 10% alpha

# Bivariate Correlation

*Conclusions about iTunes users:*

- They also listen to Apple Music ( Apple Music **is** the upgraded iTunes)
- They often download music online for free
- They also listen to music on Pandora frequently

**Correlations**

How often do you listen to music on these music platforms?– iTunes	How often do you listen to music on these music platforms?– iTunes	How often do you listen to music on these music platforms?– Spotify	How often do you listen to music on these music platforms?– SoundCloud	How often do you listen to music on these music platforms?– Apple Music	How often do you listen to music on these music platforms?– Google Play Music	How often do you listen to music on these music platforms?– Free online downloads	How often do you listen to music on these music platforms?– Other	How often do you listen to music on these music platforms?– Pandora
1	1	-.090	.142	<b>.285 **</b>	-.084	<b>.249 **</b>	-.170	<b>.193 *</b>
		.316	.112	.001	.353	.005	.121	.029
N	129	126	127	126	125	127	85	127

# Bivariate Correlation

*Conclusions about Spotify users:*

- They do not often download music online for free
- They do not often listen to music on other online platforms:
  - YouTube, 8Tracks, Songza, or iHeart Radio

**Correlations**

	How often do you listen to music on these music platforms?– iTunes	How often do you listen to music on these music platforms?– Spotify	How often do you listen to music on these music platforms?– SoundCloud	How often do you listen to music on these music platforms?– Apple Music	How often do you listen to music on these music platforms?– Google Play Music	How often do you listen to music on these music platforms?– Free online downloads	How often do you listen to music on these music platforms?– Other
How often do you listen to music on these music platforms?– Spotify	Pearson Correlation Sig. (2-tailed) N -.090 .316 126	1 126	.045 .618 125	-.123 .174 124	-.163 .071 124	-.261** .003 125	-.313** .004 84



# Bivariate Correlation

*Conclusions about people who often download music online for free:*

- They often listen to music on Amazon Prime Music, iTunes, and SoundCloud
- They do not often listen to music on Spotify

**Correlations**

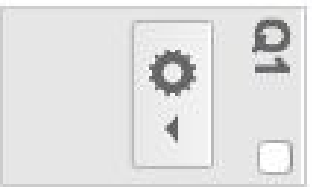
	How often do you listen to music on these music platforms?–iTunes	How often do you listen to music on these music platforms?–Spotify	How often do you listen to music on these music platforms?–SoundCloud	How often do you listen to music on these music platforms?–Apple Music	How often do you listen to music on these music platforms?–Google Play Music	How often do you listen to music on these music platforms?–Free online downloads	How often do you listen to music on these music platforms?–Other	How often do you listen to music on these music platforms?–Pandora	How often do you listen to music on these music platforms?–Amazon Prime Music	
How often do you listen to music on these music platforms?–Free online downloads	Pearson Correlation Sig. (2-tailed) N	.249** .005 127	-.261** .003 125	.268** .002 126	.041 .646 126	.137 .127 125	1 127	.053 .628 85	.096 .286 126	.220* .015 123

# Appendix B: Survey

# Final Qualtrics Survey

Qualtrics anonymous link to survey: [http://northeastern.qualtrics.com/SE/?SID=SV\\_5zDBc2domMZ1mVfv](http://northeastern.qualtrics.com/SE/?SID=SV_5zDBc2domMZ1mVfv)

Final Qualtrics Survey: Q1-Q24



Welcome and thank you for taking time to complete our survey. We, at EnGauge, appreciate your time and thoughtful responses. Please note that all responses will stay confidential.



Q2

Do you own a Smartphone?

Yes

No

Q3

What brand of Smartphone do you own?

Apple

Samsung

Android

HTC

Motorola

Nokia

Blackberry

LG

Other

←

If No Is Selected, Then Skip To When studying, which floor of Snell L...

Skip Logic ▾

×

Q4

Do you own an iPod?

☐ Yes  
☐ No

If No Is Selected, Then Skip To How often do you listen to music on t...

Skip Logic

Q5

How did you get your iPod?

☐ It was a gift from someone  
☐ I won it as a prize  
☐ Its previous owner didn't want it anymore  
☐ I bought it myself  
☐ I found it  
☐ Other

Display This Question:  
 If Do you own an iPod? Yes Is Selected [Edit](#)

Q9

**Display This Question:**  
 If How did you get your iPod? I bought it myself Is **Selected** [Edit](#)

Have you purchased an iPod in the past 5 years?
 

☐ Yes
 ☐ No

Q10

**Display This Question:**  
 If Have you purchased an iPod in the past 5 years? Yes Is **Selected** [Edit](#)

What iPod product did you purchase?
 

☐ iPod Nano
 ☐ iPod Classic
 ☐ iPod Touch
 ☐ iPod Shuffle
 ☐ iPod Mini

Q8 ☐



If you no longer had an iPod, how unlikely or likely is it you would buy another?

- |                       |                       |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Very Unlikely         | Unlikely              | Somewhat Unlikely     | Undecided             | Somewhat Likely       | Likely                | Very Likely           |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |


Q11 ☐



In the past 3 months, indicate how frequently or infrequently you use your iPod to listen to music.

- ☐ Never (0 times)
- ☐ Rarely (about once a month)
- ☐ Sometimes (about once a week)
- ☐ Often (3-5 times a week)
- ☐ All of the Time (every day)

Q6



How often do you listen to music on these music devices?

	Never (0 times)	Rarely (about once a month)	Sometimes (about once a week)	Often (3-5 times a week)	All of the Time (every day)
Smartphone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Laptop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MP3 Player	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7

How often do you listen to music on these music platforms?

	Never (0 times)	Rarely (about once a month)	Sometimes (about once a week)	Often (3-5 times a week)	All of the Time (every day)
iTunes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spotify	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pandora	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SoundCloud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apple Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Google Play Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amazon Prime Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Free online downloads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12 ☐



Please indicate the device you would choose to use for listening to music in the given situations.

	I would use:				I would not listen to music
	Smartphone	iPod	Other		
Going for a run	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At the gym	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing homework/studying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walking somewhere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During commute (car, bus, or train)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traveling on a plane	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trying to fall asleep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Entertaining guests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q13

How important or unimportant are the following features in influencing your decision on whether or not to use a Smartphone to listen to music? (1= least important; 5= most important)

	1	2	3	4	5
Battery Life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data plan (enables you to send and receive data)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Screen resolution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to call and text	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Camera	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to use music streaming services (like Spotify, Pandora, or 8tracks, for example)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14

How important or unimportant are the following features in influencing your decision on whether or not to use an iPod for listening to music? (1= least important; 5= most important)

	1	2	3	4	5
Battery Life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Storage Capacity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q15

What features would you like to have on your music listening device that do not currently exist? (1= least desirable; 5= most desirable)

	1	2	3	4	5
Built-in radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cable access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walkie-talkie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Music editing software	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Noise-canceling technology (removes background noises to ensure delivery of music to your ear drums in the clearest manner)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unrestricted music sharing (the ability to send and receive unlimited music files with friends)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my device	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16



Which device is better for listening to music?

- ☐ iPod
- ☐ Smartphone
- ☐ Other

Q17



**Display This Question:**

If Which device is better for listening to music? **iPod** is **Selected** [Edit](#)

iPods are better than Smartphones for listening to music because of the...

- ☐ Battery Life
- ☐ Cost
- ☐ Size
- ☐ Weight
- ☐ Price
- ☐ Storage Capacity

Q18

**Display This Question:**  
If Which device is better for listening to music? **Smartphone** is **Selected** [Edit](#)

Smartphones are better than iPods for listening to music because of the...

- ☐ Battery Life
- ☐ Cost
- ☐ Data plan
- ☐ Size
- ☐ Screen Resolution
- ☐ Ability to call and text
- ☐ Camera
- ☐ Ability to use music streaming apps other than iTunes (like Spotify, Pandora, or 8tracks, for example)

Q19

When studying, which floor of Snell library do you prefer the most?

☐ First floor

☐ Second floor

☐ Third floor

☐ Fourth floor

☐ I do not attend Northeastern University

☐ I do not go to Snell library

Q20

What is your gender?

☐ Male

☐ Female

☐ I prefer not to say

If I do not attend Northeastern ... is Selected, Then Skip To Thank you for being a participant in ...

Skip Logic

Q21



Please indicate your race/ethnicity.

- ☐ American Indian or Alaska Native
- ☐ Hawaiian or Other Pacific Islander
- ☐ Asian or Asian American
- ☐ Black or African American
- ☐ Hispanic or Latino
- ☐ Non-Hispanic White
- ☐ Two or More Races
- ☐ I prefer not to say

Q22



What is your age?

Under 15 years

Q23

Please feel free to share any additional comments, questions or concerns in the space provided below:

Q24

Thank you for being a participant in our marketing research survey.

If you would like to discuss the topic of Smartphone vs. iPod usage for listening to music further, please feel free to reach out to the EnGauge team at lauffer.v@husky.neu.edu, hayes.k@husky.neu.edu, porter.ma@husky.neu.edu, ng.ke@husky.neu.edu, or dtouni.a@husky.neu.edu.

We appreciate your time.

# Appendix C: Personnel Involved

## *Who Are We?*



Northeastern-bred strategists turned quantitative researchers based in Boston, MA. Nearly 20 years of combined academic experience as marketing students with professional experience at some very reputable companies, including John Hancock/Manulife, Wayfair, TJX, Jumpstart, MCX, Admerasia, Meridian Realty Group LLC, Ameriprise Financial Services, StreakU, University Beyond, and NUMA. Our brand-focused background means that we find consumer insights that inspire, clarify and motivate brands, and the people who work on them. We frame up every project in terms of its strategic intent and what you need. With experience throughout the entire brand journey, we're able to bring perspective and insight whether you're in the early stages of identifying your target and positioning, creating a new product, evaluating your marketing communications or scoping out new territory for your brand.





## **Maya Porter**

### **Co-Founder/Marketing Strategist**

Porter is an innovative leader, and has developed her passion for marketing research by creating EnGauge. A Northeastern alumni, Porter has since developed her skills as a Project Coordinator, first with Manulife and then as a Project Manager in Northeastern's Programming Lab. Porter has used the skills she has developed to found EnGauge and create the marketing research firm known internationally today.

### **Contributions**

- Developed objectives and hypotheses
- Interpreted survey data
- Produced graphical representation of SPSS output



## **Valerie Laufer**

### **Co-Founder/Associate Director**

Valerie is a co-founder and associate director of EnGauge. With diverse marketing experiences in ecommerce, mobile payments, tech, and customer relations, Valerie specializes in project-based strategic brand consulting, moderating and workshop facilitation.

#### **Contributions**

- Built quantitative survey
- Aligned objectives and hypotheses with corresponding areas of questioning
- Cleaned survey data

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## **Katherine Hayes**

### **Managing Director & Creative Strategist**

Hayes is a founding member of EnGauge, and acts as the Creative Strategist. Her passion for marketing is seen throughout her creative work, and past experience in marketing jobs has primed her to bring a different side to the company. Since graduating from Northeastern she has dedicated herself to marketing, and has specialized in adapting her skills to focus on EnGauge.

### **Contributions**

- Researched background information
  - Ran SPSS to find interesting data
  - Outlined company and worker roles
-



## Alex Dfouni

### Data Analyst & Moderator

Dfouni serves as Engauge's head data analysts, and has achieved this title thanks to his vast research experience. Dfouni started his career after graduating from Northeastern by working as a data and research analyst, and has since adapted the skills he learned to further develop in his career here at Engauge.

### Contributions

- Created infographic for presentation
- Cleaned survey data for analysis
- Performed Factor and Cluster analyses



## Kevin Ng

### Marketing Strategist & Moderator

Ng is EnGauge's lead marketing strategist, and a great asset to the team thanks to his extensive experience. After graduating from Northeastern University, Ng continued to pursue marketing at organizations such as Admerasia and State Street. His experience as a Marketing Assistant and his time in Insurance Marketing has primed him for his role as Marketing Strategist here at EnGauge.

#### Contributions

- Performed Factor & Cluster Analyses, and ANOVA
- Data analysis and interpretation
- Cleaned survey data





## **Kwong Chan**

### **President of the Board**

Chan is a master in innovation, especially through the use of marketing strategy. A graduate of University of Tasmania and then obtaining his Ph.D via Michigan of State University, he then gained industry experience through working with companies such as Dexrex, LLC, Nielsen, and Better Data Group. Since his time in the field, Chan has dedicated himself to teaching students how to better their marketing research skills, as an academic professor at Northeastern University.

#### **Contributions:**

- Inspirational leader
- Beacon of hope

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Email: [engaugeboston@gmail.com](mailto:engaugeboston@gmail.com)

Twitter: @EnGaugeBoston

Facebook: EnGauge Boston

We have enjoyed working with you.  
Thank you for choosing **ENGAUGE** 

## Contact Info

If you have any further questions or concerns please do not hesitate to contact us.

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