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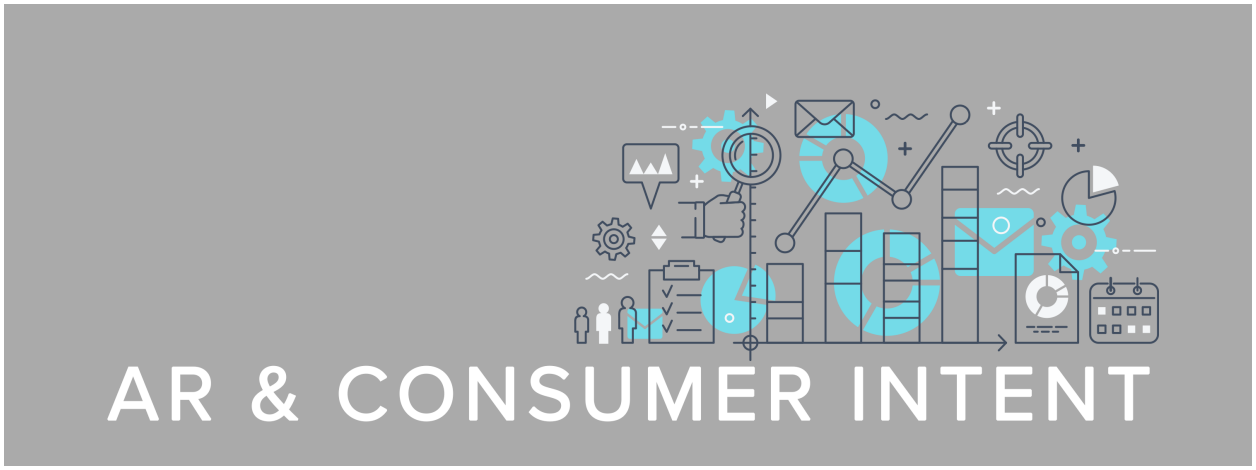
Consumer Survey:



METHOD

Overview

A survey was designed to better understand consumer intent and attitude toward AR experiences. The survey also asked participants details about their past experiences, motivations and preferences with AR.

Measures

A general score for AR Exposure was built from a series of polar questions (yes-no) designed specifically for this study. The score added one point for each positive answer, with a total possible value of 20 points. One question had three possible values: 0, 1, and 2.

To get a measure of the respondents' attitude toward AR, defined as their general evaluation of the medium, a Likert-type scale was built specifically for this study. The scale considered five questions and had a high level of internal consistency, as determined by a Cronbach's alpha of 0.843.

Engagement with AR was measured through a Likert-type scale including only two items that assessed respondent's time interacting with AR experiences, as more than originally planned or barely any (reverse coded). Because the scale only had two items, the study considered the inter-item correlation of 0.40, instead of the Cronbach's alpha value for internal consistency.

Intention to Share was assessed through a four-item Likert-type scale also built for this study. The scale had a high level of internal consistency, as determined by a Cronbach's alpha of 0.773.

Procedure

The survey was designed using Survey Monkey software and distributed online through LinkedIn, various other social media channels, online forums, and via Survey Monkey targeted audience services. The survey asked participants for their age and gender, and in the case of the Survey Monkey target audiences for their region within the USA according to the US Census Bureau. For all other respondents, their location was traced to city level via IP address, then recoded to region level to make it comparable. This information was later discarded to protect the respondent's identity. No incentive was offered for responding to the survey, and the participants were notified that their identity would remain confidential. Responses were collected from July 18 to August 7, 2018.

Participants

A total of 213 responses were collected. Of these 12 cases were eliminated for containing insufficient data. Of the 201 responses that remained:

- 47.37% reported their gender as female
- 52.63% reported their gender as male

Age ranged from 17 to 77, with a median age of 34.9. 40% of the respondents were equal to or less than 29-years-old.

90.5% of the responses came from the USA with 40% from the Pacific region, mostly from California (n=69) from the responses that could be tracked at a state level.

RESULTS

Overview

62.7% of the participants (126 total) claimed to have had an AR experience.
Of these, most had experienced both Face (front-facing camera) and Space (rear-facing camera) AR:

- 80% had experienced Face AR
- 78.6% had experienced Space AR

Where

Of those who had experienced AR:

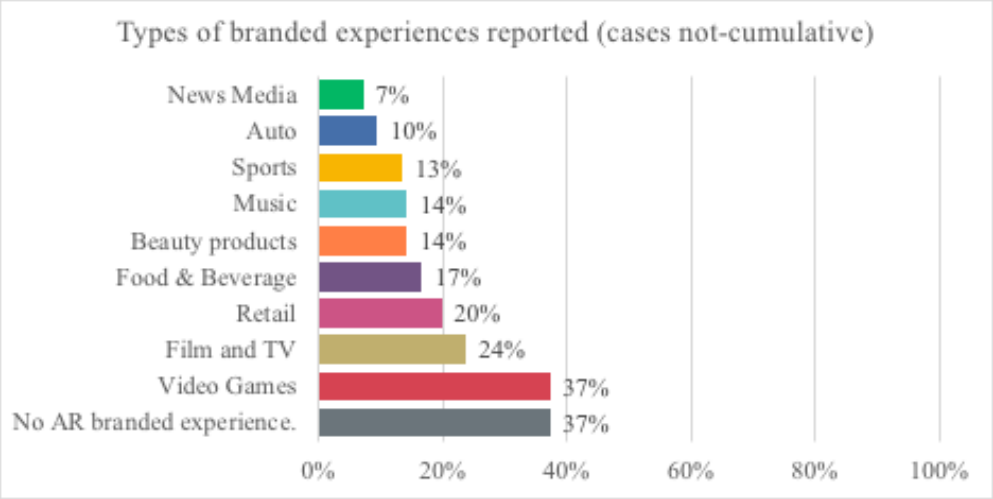
- 56.35% downloaded an app
- 52.38% experienced AR on Snapchat
- 30.16% experienced AR on Facebook
- 30.16% accessed AR via a QR code
- **Only 21.43% experienced AR on the web**

Branded?

Of those AR experiences:

- 37% were not branded
- 37% were video game experiences
- 24% were entertainment based
- 20% were retail experiences
- 17% were food/bev related

The following table summarizes the full results:



78% stated that they would prefer to interact with an AR experience rather than watch a 30 second video.

Attitude

Overall, attitude toward AR post-experience was very positive. Of all of those who reported having experienced AR:

- **89.65% said AR was fun**
- **86.2% said AR made them smile**
- 58.62% said AR made them laugh
- **60.35% said AR improved their mood**
- 70.69% were not disappointed by their AR experience
- **43.1% spent more time than they had originally intended to in the experience**
- 70.69% thought to share the experience
- **65.52% shared the experience**
- 84.48% said they would not have been embarrassed to share the experience

Preference

Of those who had experienced AR, most would like to see more experiences in which they could place something they're considering purchasing in their world. Of those who responded to what kind of AR experience they would choose if they could create their own:

- 32.4% said they'd like a Face experience in which they could adopt a new identity (e.g. superhero, rockstar, animal)
- 19.64% would like an experience that improved their appearance (stronger, thinner, younger)
- 25% would like a Face experience in which they can try on makeup or a new look
- 14.29% would like to place a luxury item like a fancy car in their world
- 42.86% would like to place imaginary things in their environment, such as a dragon or fairy
- 33.93% would like to try products on their hands, feet or body
- **57.15% would like to place items they are considering purchasing in their environment (e.g. furniture, appliances)**
- **44.65% would like to experience an AR game**

Intent

In terms of AR for brand awareness, intent to share was high.

- 52.6% of users took pictures of their AR experience
- 66% took more than 1 picture
- Of those that didn't take pictures:
    - 39.7% said they did not think of it

APPENDIX

AR Exposure Score was moderate (M=10.25) with around 75% of the participants having a score of 8 out of 20 or higher. Table 1 summarizes these results.

Table 1. Descriptive Statistics of the Operational Variables

	N	Minimum	Maximum	Mean	Std. Deviation
AR Exposure Score	126	4.00	21.00	10.2540	3.26420
Attitude toward AR	116	-1.20	2.00	.9190	.64064
AR Engagement	116	-.67	2.00	.6351	.71692
Intention to Share AR	116	-1.50	2.25	.4235	.90466
Valid N (listwise)	116				

Intention to Share

47.4% of the respondents reported not having taken any pictures during an AR experience. Of the ones that did take pictures, 66% reported having taken more than one picture, with 11% having taken “a lot of pictures.” Among those respondents that did not take a picture (N=88) 39.7% stated that they did not think of it, and only 5.7% said that they did not want to share branded content.

A multiple linear regression was run to assess whether AR Exposure, Attitude toward AR, and AR engagement had an effect on the intention to share AR content. Only the cases of respondents with previous exposure to AR were considered (N=116). There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.375. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. The assumption of normality was met, as assessed by a Q-Q Plot. AR Exposure, Attitude toward AR, and engagement statistically significantly predicted intention to share, $F(3, 112) = 14.546$, $p < .001$. R^2 for the overall model was 26.1% with an adjusted R^2 of 26.1%, a moderate size effect according to Cohen (1988).

Table 2. Summary of Multiple regression Analysis

Variable	B	Standard Error	Standardized Coefficient
Intercept	-.706	.260	
AR Exposure Score	.052	.025	.176*
Attitude toward AR	.432	.130	.306**
AR Engagement	.296	.109	.234**

* $p<0.005$

** p<0.001

Scoring for AR Experience
SUM(Kwnoledge_Acronym,Knows_Difference,ARexperience,Face_experience,Space_experience,Snapchat,Downloaded_app,Web_Online,Scanned_QR_code,Dont_Remember_Other,Auto,Beautyproducts,FilmandTV,FoodampBeverage,Music,NewsMedia,Retail,Sports,VideoGames)

Points	Variable	Criteria
1	Kwnoledge_Acronym	Recognizes AR as acronym of AR
2	Knows_Difference	Knows the difference between AR and VR (assertive: Yes!)
1	Knows_Difference	Knows the difference between AR and VR (Sort of)
1	ARexperience	Has had an AR experience
1	Face_experience	Has had a Face Experience
1	Space_experience	Has Had a Space Experience
1	Snapchat	Experience AR on Snapchat
1	Facebook	Experience AR on Facebook
1	Downloaded_app	Downloaded an App
1	Web_Online	Experienced Web-based AR
1	Scanned_QR_code	Scanned a QR code to launch AR
1	Dont_Remember_Other	Doesn't remember
1	Auto	Auto
1	Beautyproducts	Beauty products
1	FilmandTV	Film and TV
1	FoodampBeverage	Food & Beverage
1	Music	Music
1	NewsMedia	News Media

1	Retail	Retail
1	Sports	Sports
1	VideoGames	Video Games
1	Choice_Video_AR	Choice_Video_AR

Attitude Toward AR: Quantification of the attitude toward AR.
MEAN(XP_wasfun,XP_mademesmile,XP_mademelaugh,XP_improvedmymood,XP_wasdisappointing,Spent_More_Time_Than_Planned_with_XP,Barely_Spent_Any_time_with_XP,Thought_Sharing_XP,Shared_XP,Would_be_embarrassed_to_share_XP)

Cronbach alpha = 0.843, standardized items = 0.847

Likert-type scale from Strongly Agree (2) to Stronglu Disagree (-2) for the following items:

Variable	Label	Score
XP_wasfun	The experience was fun	-2 to 2
XP_mademesmile	The experience made me smile.	-2 to 2
XP_mademelaugh	The experience made me laugh.	-2 to 2
XP_improvedmymood	The experience improved my mood.	-2 to 2
XP_wasdisappointing	The experience was disappointing (reverse code)	-2 to 2

Engagement with AR: Quantification of engagement

Cronbach Alpha = 0.555 Based on Standardized Items 0.556

Spent_More_Time_Than_Planned_with_XP	Spent more time than planned	-2 to 2
Barely_Spent_Any_time_with_XP	Barely Spent any time (reverse coded)	-2 to 2
Would_be_embarrassed_to_share_XP	I would be embarrassed of sharing the experience with others (reverse code)	-2 to 2

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Intention to Share
Cronbach Alpha 0.773 Based on Standardized Item 0.776
MEAN(Thought_Sharing_XP,Shared_XP,Value_Shared_Photos_Social_Media,Took_Photos)

Thought_Sharing_XP	Thought of sharing	-2 to 2
Shared_XP	Shared Experience	-2 to 2
Valued_Shared_Photos_Social_media	Intention to Share on Social Media	-2 to 2
Took_Photos	Took Photos	-2 TO 2

Likert-type scale from Strongly Agree (2) to Strongly Disagree (-2) for the following items:

- I spent more time than initially planned interacting with the experience.
- I barely spent any time interacting with the experience.

Scale about the number of photos taken, from 0 = None to 3 = Many
Shared it on Social media

Hypothesis 1: Intention to Share will be associated with
1.1 AR Exposure
1.2 Attitude toward AR
1.3 AR Engagement

There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.375

The independent variables were collectively linearly related to the dependent variable as assessed by plotting the unstandardized predicted value against the studentized residual.