

Go Beyond Social

Understand the Value of Multi-Channel Analytics

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Agenda

- AA Customer Focus
 - AAdvantage Frequent Flier Loyalty Program (AADV)
- Voice of the Customer
 - Traditional
 - Social Media
- New Vision of Customer Information



American Airlines Customer Base

- AAdvantage (AADV) was the first customer loyalty program
 - Launched in 1981 after airline deregulation for flyers
 - Is the world's largest program with 67 million members
 - 13 million active members
 - Is the core of AA's customer strategy
- Individuals are identified by their AADV ID
 - Required information fields are
 - Formal name, Mailing address
 - Optional information includes
 - Email address, Company
 - Auxiliary information is obtained from Acxiom
 - Demographics, updated mailing addresses

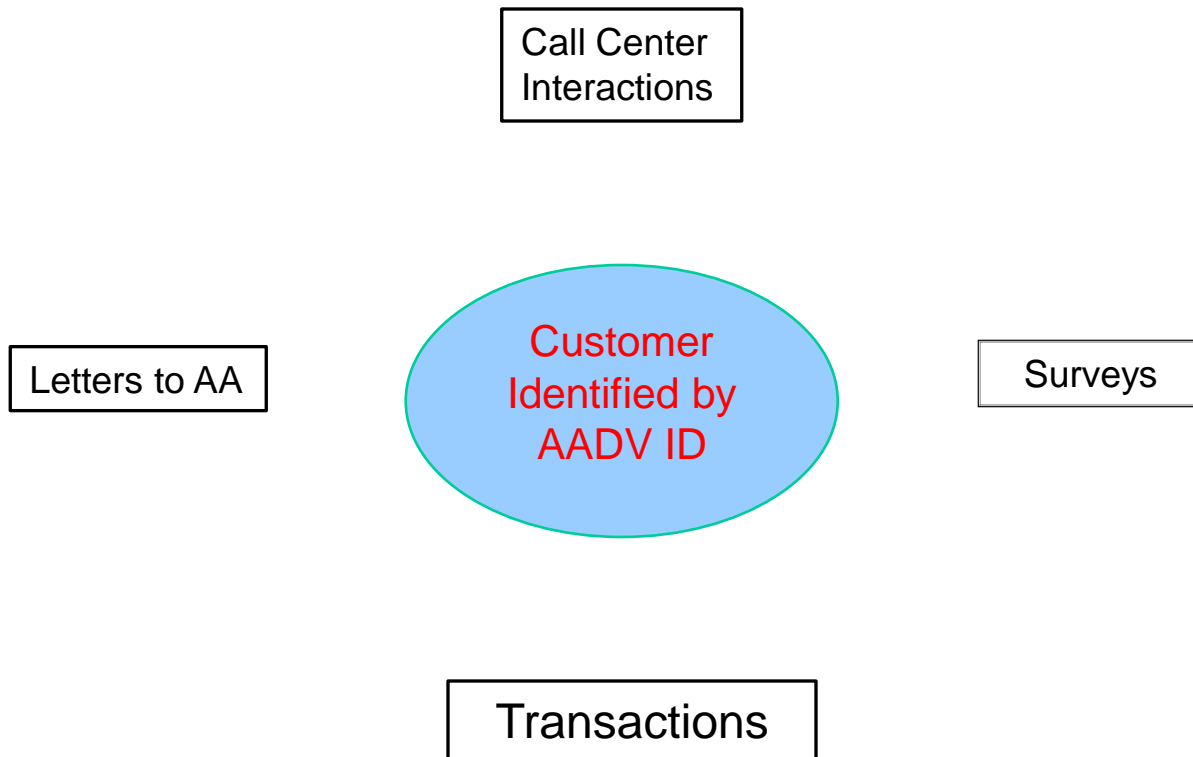


Customer Touch Points

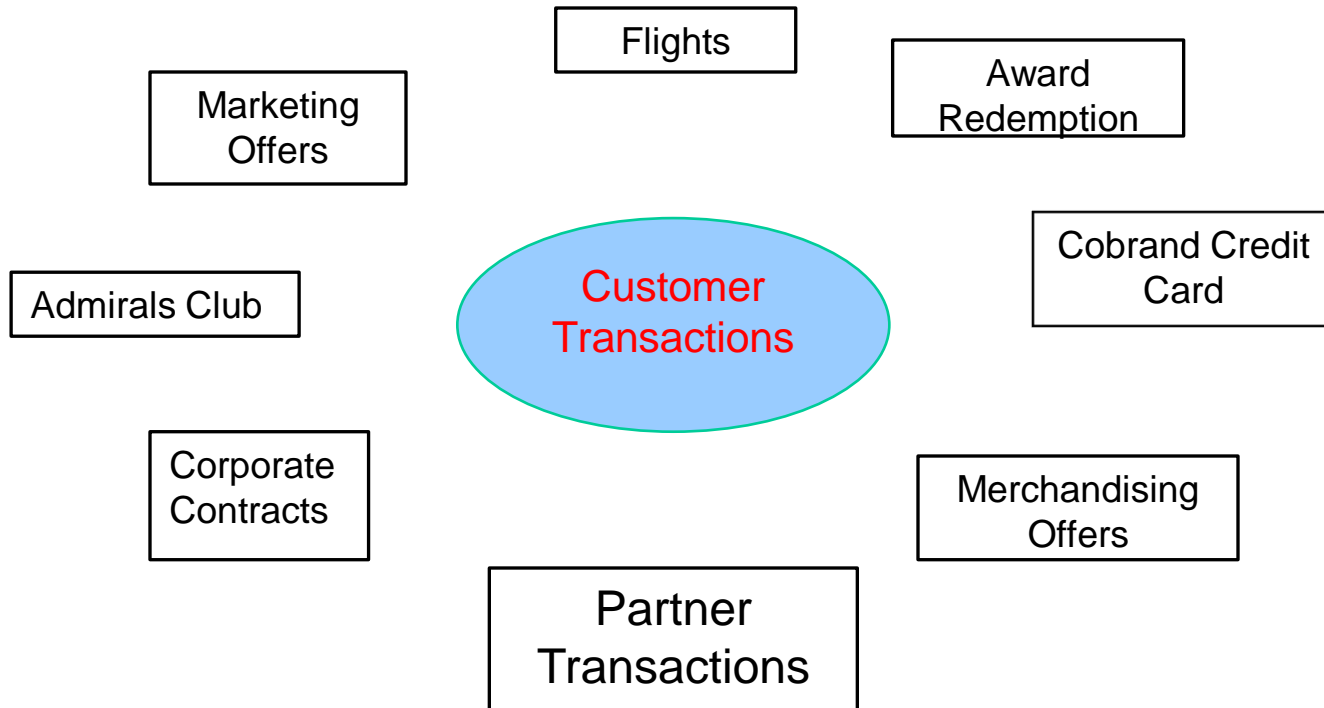
- There are multiple customer touch points throughout the travel cycle
 - Shopping for flights either on-line, by phone, or with an agent
 - Booking flights
 - Adjustments to booking
 - Check-In (including bags)
 - Boarding
 - The actual flight(s) for the chosen itinerary
 - Arrival at destination
 - Baggage delivery
 - Mileage accrual
- Each touch point provides an opportunity for AA to hear from our customers



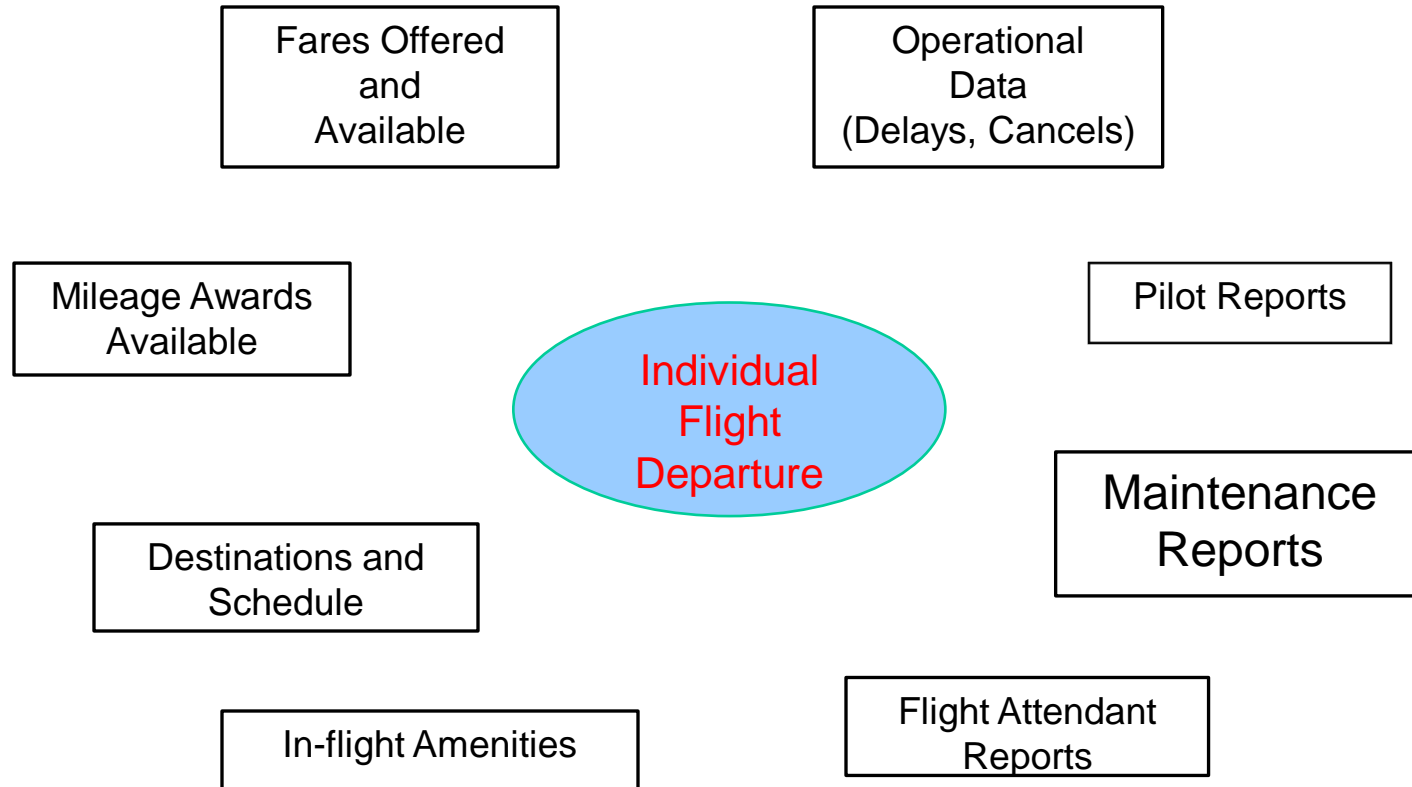
Traditional Voice of Customer



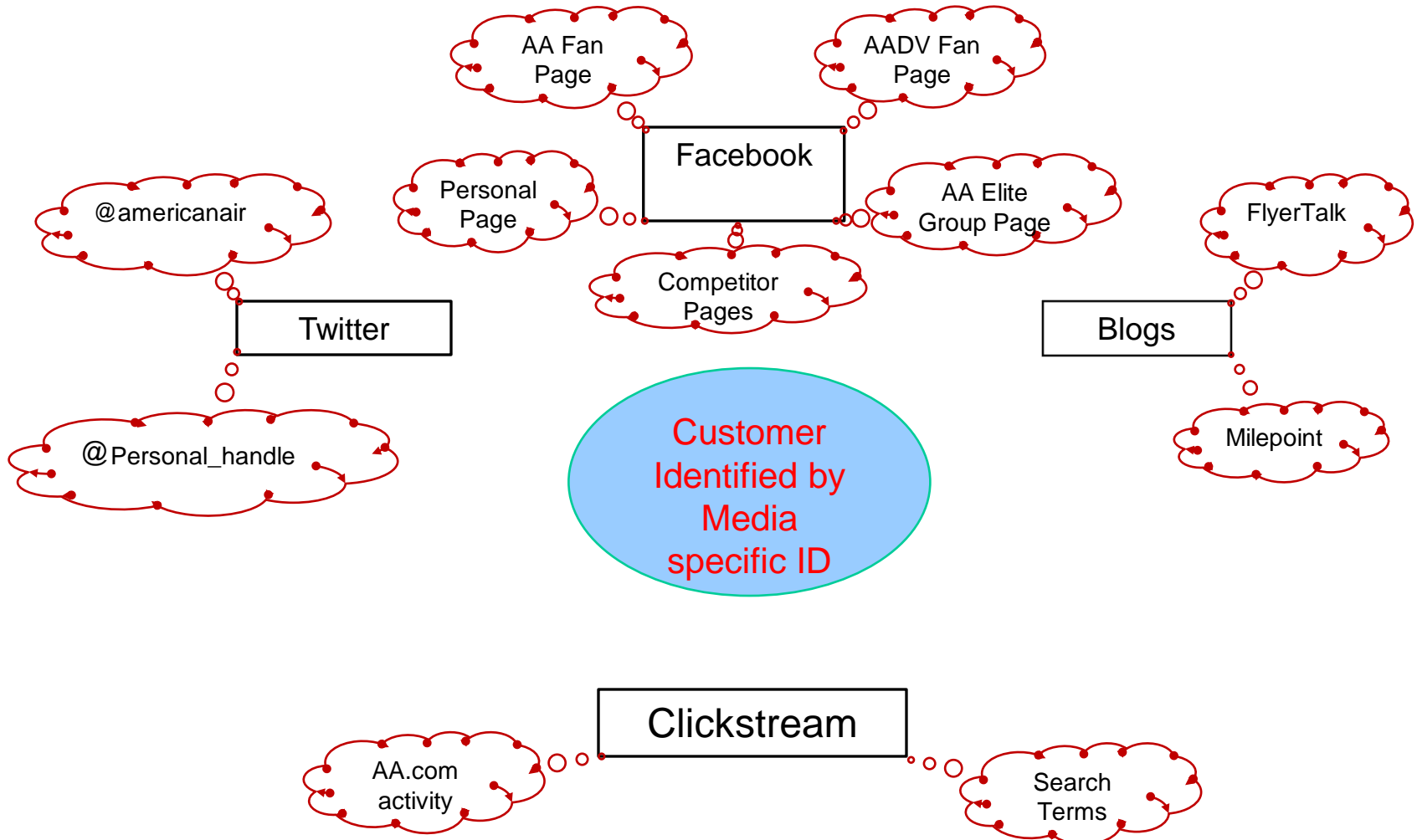
Transactional Voice of Customer



Flight–Key Customer Transaction



VOC in the Age of Social Media



Structured & Unstructured Data

Structured

- Customer name, address, basic information
- Customer transactions
 - Revenue, Awards, Accumulated miles
- Survey - multiple choice
- Marketing offers made
- Schedule and fares
- Operational data
 - Delays/cancellations, Baggage failures
 - Some mechanical reporting

Unstructured

- Letters to AA
- Call Center Interactions
- Survey Comments
- Twitter comments
- Facebook posts
- Blog Posts
- Clickstream data
- Crew Reports
 - FA, Pilot, Maintenance



Enterprise Data Warehouse

- Much of AA's structured data is stored in our EDW, Teradata
- Customer information indexed by AADV number
 - Basic ID information is provided by customer
 - Demographics are received via Acxiom feed
- Customer transaction history
 - Flights booked and taken, fares paid, miles accumulated, awards redeemed, offers accepted
- Flight schedule and fare offerings
- Operational facts
 - Delays, cancellations, load factors



Structured Data Outside EDW

- Some “specialized” structured data is kept in departmental databases
 - Customer survey responses to multiple choice questions
 - Marketing offers
 - Food and Beverage
 - AA Gift Card program
- As people throughout the company become aware of the departmentally kept data, there is often a push to integrate it with into the EDW
 - Ownership issues may exist
 - Some departmental databases are housed by vendors or partners



Traditional Unstructured Data

- Most unstructured data is stored in departmental data storage (not necessarily a database)
 - Customer Letters to AA
 - Call Center Interactions
 - Survey Comments
 - Crew Reports – Flight Attendants and Pilots
 - Maintenance Reports
- Absent a Text Mining Tool, most unstructured data is read and categorized manually
 - Categorization summaries are distributed to interested parties
- AA.com clickstream data is hosted by OMNITURE
 - Daily reports are generated



Social Media Unstructured Data

- Facebook
 - AA & AADV fan pages, Elite pages, Competitor pages, Personal pages
- Twitter
 - @americanair, personal handles, competitor handles
- Blogs
 - FlyerTalk – dedicated to travel and frequent flyer miles
 - 400,000 members, forums for all major airlines
 - MilePoint – also dedicated to frequent flyer miles
 - Smaller than FlyerTalk but growing
- Google+, other presence



AA Social Media Team

- Recently brought in-house with an expanded team
 - Formerly functions were performed by AA's public relations firm in conjunction with an in-house Social Media Director and Corporate Communications
- Team divided into Proactive (Offense) and Defense
 - Forgive the football metaphor – this is Texas, after all
 - Defense was developed first to solve immediate, day of departure issues for flyers
 - Both Twitter and Facebook monitored using Radian 6 in real time
 - Coverage over majority of flying hours with plans to ramp up
 - The Proactive team works with Corp Comm, Marketing, and AADV to inform customers of new services or to hear their opinions on topics
- AADV Facebook Page features the latest ways to earn miles and contests



Defense and Proactive Examples

Tweet from {twitter-user}

Followers: 10414 Following 4109

@americanair really screwed up. First a delayed flt, then a grouchy attendant and now no food ☹️

Tweet from @americanair

Followers: 317066 Following 17981

@{twitter-user} Sorry to hear of your frustration! Can you follow up and DM us your record locator and/or flt info and name. Thx

Tweet from {twitter-user}

Followers: 295 Following 317

RT @americanair Alert A Seattle (SEA) winter #weather #travel policy is in place for Jan 17 and 18. Details: {link}

Tweet from {twitter-user}

Followers: 54 Following 146

@americanair best flight ever - how do I get so lucky on people I sit next to? Thanks you – great 90 minutes well spent LGA->CMH

AAdvantage ▶ Mystery Miles

Product/Service



VOC – Coming In Loud and Clear!

- But who is talking?
 - We must unite our structured and unstructured data
- Facebook requires a name to set up an account
- A Twitter user does not need to completely identify
- Blog posters can have cryptic user IDs
- AADV has proper names which must correspond to tickets and passports
 - Metadata for FB and Twitter often uses nicknames or shortened forms of names
 - AA and AADV Fan Pages do not prompt for AADV ID
 - Need to become creative to match comments with customers



Name Matching Algorithms

- Critical and not trivial
- Issues
 - Nicknames (especially those without a proper name—“Blondie”)
 - Initials used instead of name
 - Middle names used instead of first name
 - Hyphenated last names – sometimes not official
 - Multi word last names – “de Long” – is “de” a middle name or part of the last name?
 - “English” instead of ethnic name
 - Character sets not supported in our database (Turkish characters, for example)
 - Common names
 - Approximately 500 John Williams in AADV database



Name Matching Algorithms

- Excellent list of first names and associated nicknames at *UsefulEnglish.com*, a Russian website
- Different combinations and permutations of names can be used to narrow down the matching candidates
- In a straight first/last name match from FB name to AADV database, 273/992 resulted in a unique match
- Clues in posting can point to proper person
 - “I was on flight 1234 from MIA and”
 - “Please increase the frequency between DFW and Jackson Hole”
 - “At the Admirals Club in JFK”
- Text Mining software to find airports and flight numbers in context needed (DAY or Dayton, Ohio?)



Customer On-Line Profile

- To go beyond the silos of structured and unstructured data, we need to construct a “Social Media” aware profile of our customers

Social Media ID Information

AADV Number
Media Type

- Facebook
- Twitter
- Blog Name (Flyer Talk, MilePoint)

Media ID

- Facebook ID
- Twitter Handle
- FlyerTalk User Name
- MilePoint User Name

Number of Friends/Followers
Klout Score
Certainty Measure

Social Media Posting Info

AADV Number
Media Type
Post Date
Post Type

- Immediate Problem
- Response to AA Post
- General Comment
- Interest
- Etc.

Subject Area
Sentiment Rating
Likes/Comments/Retweets
AA Response/Problem Resolution status
Language used



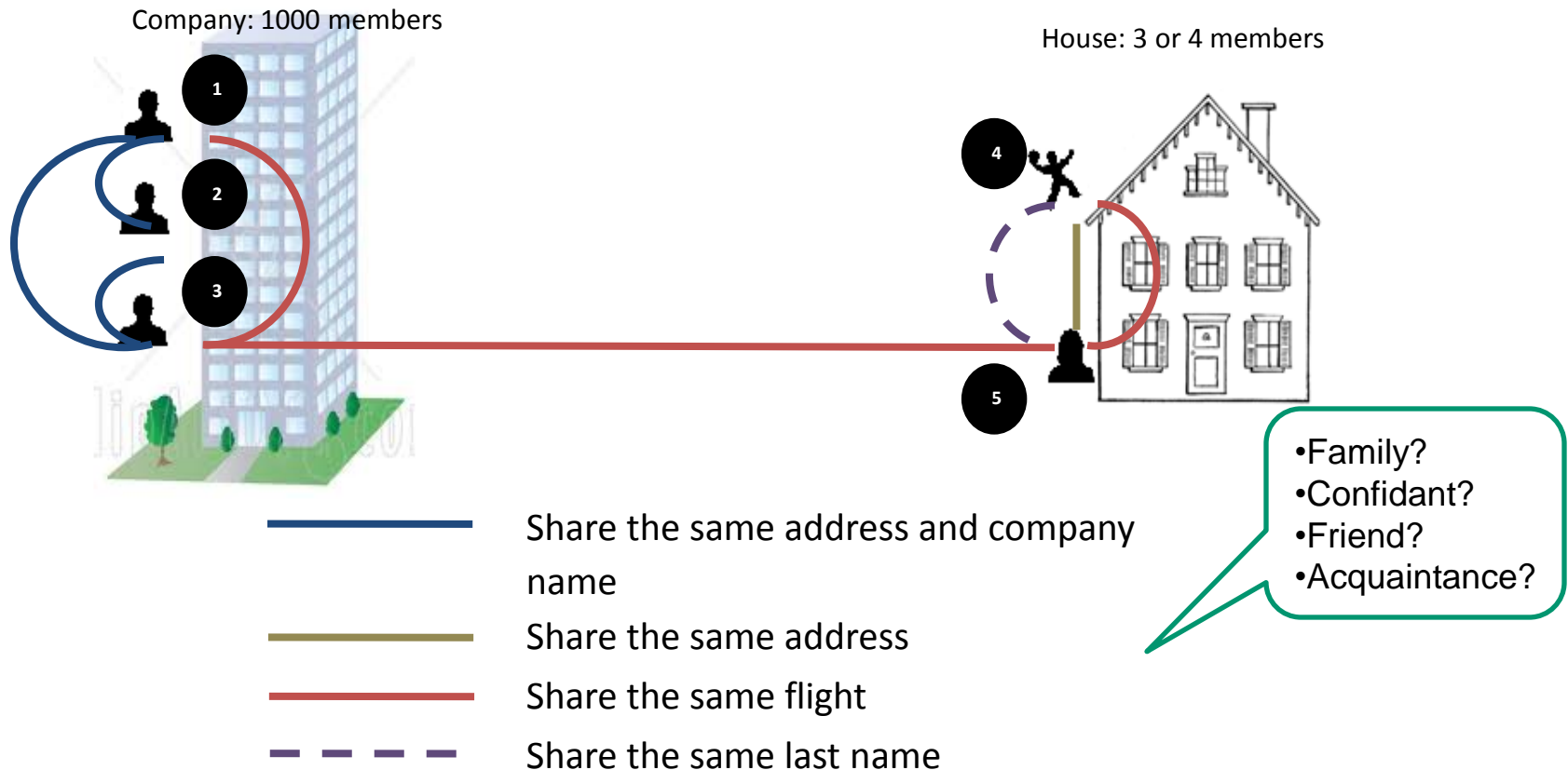
Customer Social Network



- Current CRM at AA focuses on individual customer attributes and activity
- Latest research in Marketing Science involves analyzing customers in their natural habitat – the social network
 - Their sphere of influence (and who influences them)
- Social media, blogs, and message boards impact customer attitudes and ultimately their behavior
- 71% claim that reviews from family and friends exert a “fair to great deal” of influence on buying decisions (Harris Interactive, June ‘10)



Social Network – Nodes & Edges



Not all types of connection exert the same amount of certainty!



Other Connections



- Referrals
- Mileage Transfers
- Admirals Club Membership
- Social Media connections or mentions



AAAdvantage's Notes

Browse Notes

- Friends' Notes
- Pages' Notes
- My Notes
- My Drafts
- Notes About Me

Jump to Friend or Page

Subscribe

AAAdvantage's Notes

Report

Which AAAdvantage Fan Would You Send on a Free Trip?

+ Write a Note

by AAAdvantage on Friday, June 24, 2011 at 3:00pm



AAAdvantage

If you had to book an award flight for a friend - who would you book it for? Tag your friend in your comment to show them some love!

June 10 at 1:00pm · Like · Comment

Reiko Nomura, Robbie Robinson, Rhonda Stovey and 54 others like this.

View all 236 comments

Recently we asked you to answer a question. *"If you had to book an award flight for a friend - who would you book it for?"*

We saw all of your great responses, and picked out a few of our favorites from the bunch. We'll be picking one fan from the list below to make their wish come true!

Let us know who your favorite is by leaving a comment below.

Amie W.



My friend Kyna S. just mentioned how she needed a vacation!! And she deserves one after successfully completing and passing the courses to be come a dental hygienist!! A restful and relaxing vacation is a great way to kick off her new career path!!

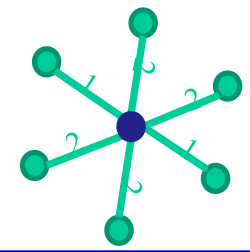


Social Network Measurements



- Once we have a network, what can we learn from it?
- Several measures (scores) can be assigned to each member of the network:
 - Influence
 - “Betweenness”
- Additionally, members of the entire network can belong to one or more subnetworks:
 - Closest Circle
 - Influential Circle





Influence Score

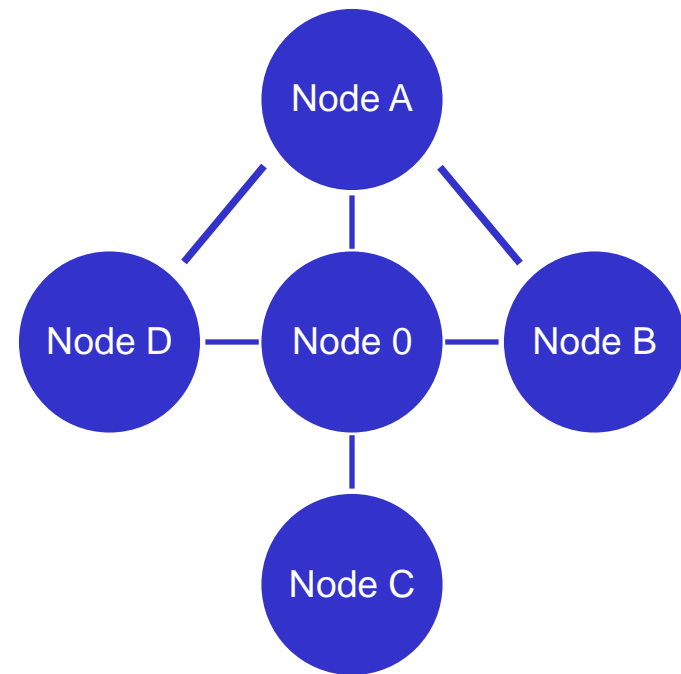
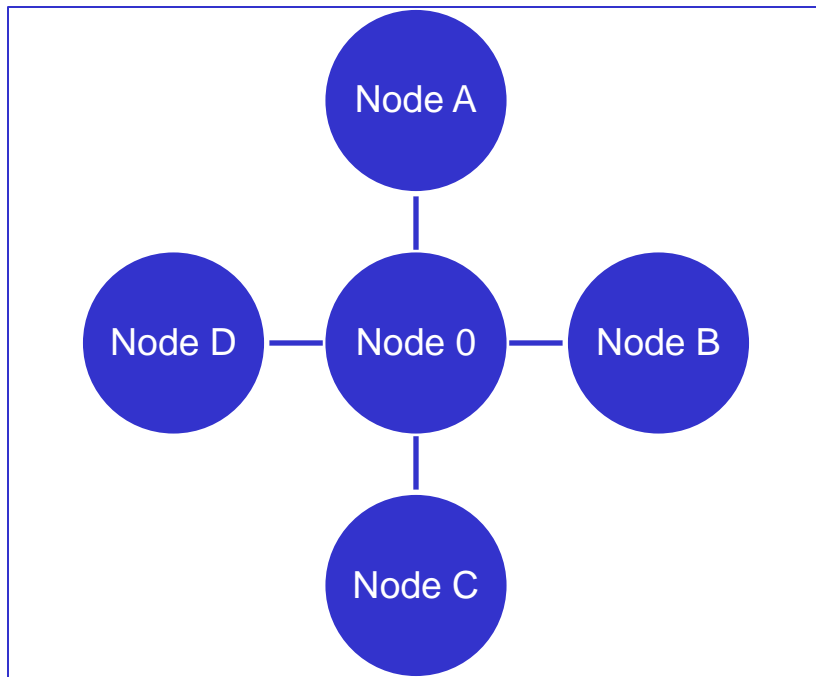
- The Influence Score depends on two factors:
 - Number of direct connections in the network
 - Strength/certainty of each connection

Ranking	AADV	Influence Score	Num of Direct Connection (Centrality)	Average Connection Strength
1	1111111	98	39	2.5
2	2222222	94.75	17	5.6
3	3333333	78.85	14	5.6
4	4444444	77.5	25	3.1
5	5555555	76.8	13	5.9
6	6666666	74.1	17	4.4
7	7777777	70	11	6.4
8	8888888	69	10	6.9
9	9999999	63.49	11	5.8
10	0000000	63	7	9.0



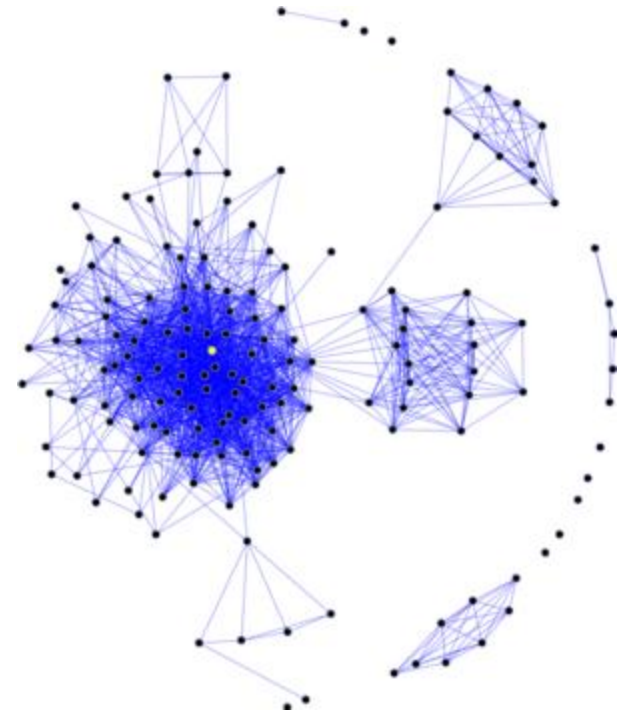
“Betweenness” Score

- For each member, the total number of shortest paths between any pairs of other nodes that pass through it
 - Indicates node importance in establishing network connectivity



Influenced and Influential Circles

- The Influenced Circle is defined for each member as the set of nodes most closely related in the network
 - Above a threshold
- The Influential Circle is a group of members that span the network with high influence connections
 - This definition is still a little fuzzy
 - ...



Finally, Going Beyond Social



- We have just described a framework for organizing structured and unstructured data in a way that relates to social networking
- How can our business use it?
 - Be quickly tuned into what our best customers are saying and determine where their message is going
 - Respond with more relevant information and targeted offers
 - Let our customers spread the word to friends that have taken their flying elsewhere or opted out from receiving offers directly from us
 - Look at the customer more holistically – customers who often fly with family and friends can bring in more total revenue than those flying alone
 - An offer for a discounted flight may result in an extra trip for a friend



The Journey Begins



- Much of what has been described here is still in the beginning stages
- But AA has the pieces in place to move forward with the integration of structured and unstructured data
- We look forward to the future and to the connection of our airline flight network to our social network
- Questions?
- Thank You!!

