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Applied Big Data Analytics Using Listener Mega Conference Quick Bites

Current challenges with digital data analytics

- Optimizing audience and advertising revenues online requires a deep understanding of customer behaviors and preferences
- Available online data is collected by separate systems with distinct areas of focus:
 - Digital advertising
 - Web traffic
 - Pay wall/Meter/Registration systems
 - Subscriber data
- Level of detail captured is not consistent across systems
- Underlying data can be altered when processed by system providers

Current challenges with digital data analytics

- Timely access to system data varies by provider
- Data extraction and analytic reporting capability in each system is limited
- Analytics "silos" don't facilitate informed decision making
- Aggregated details of customer behavior, audience revenues and advertising revenues do not exist
- Separately combining and correlating data across systems is very difficult
- Integration with offline/print customer information not available

Analytics and reporting capabilities with Listener[™]

- Combine digital performance metrics and revenue
- Create consistent detailed dataset across all sources
- Add data from other offline systems (print circulation, advertising)
- One dashboard/login for central reporting
- Allows precise revenue optimization analytics



Existing digital data capture by different systems







SYNCRONEX



Existing digital data capture by different systems

Data from each system must be painstakingly consolidated and cross-referenced to provide full picture of metrics



Comprehensive data gathering with Listener[™]

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Listener intercepts data across all services and provides its own tracking function

Comprehensive data gathering with Listener™

- Using Listener, all tracking data is collected, cross-referenced and processed at the same time
- This eliminates latency, the risk of losing data and any impact from data processing by the service provider





How does Listener work?

- Listener code is installed on your webserver similar to Google Analytics or Omniture
- Listener runs parallel without impact to any other web analytics tracking system
- Listener gathers data across all services at the same time and provides its own tracking function
- Website performance is not impacted

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Listener technology infrastructure diagram



Single log-In for comprehensive online data and reports





Online dashboard – Overview showing conversion funnel, site traffic and advertising metrics in one location with data filtering and exporting



Online dashboard – Advertising metrics & revenue; data can be filtered using multiple criteria; Impressions, click-through, and revenue shown together



Online dashboard – Traffic metrics, time on site, referral domains, unique visitors; data can be filtered using multiple criteria and exported to Excel



Analytics and optimization methods enabled by Listener

- Digital Customer Lifetime Value (CLV)
 - Targeted acquisition price points, acquisition campaigns, content bundling, renewal price points, etc.
 - Expected revenue streams generated by subscriber retention and monetization (advertising and subscription revenues)
- Dynamic meter recommendations
 - Determine when content should be monetized based on potential advertising at risk vs. potential subscriber revenue
 - Targeted recommendations by site section, seasonality, geography, platforms, etc.
- Dynamic advertising pricing recommendations
 - Pricing based on user demand, user characteristics and behavior, etc.
 - Pricing based on advertiser demand, line of business, and inventory levels, etc.
 - Digital inventory forecasting
- Optimize content cadence
 - How often and when should new articles be published to maximize lift in traffic and advertising or maximize total time on site

ROI Case Study – Digital Engagement's Effects on Price Changes



Retention for Subscribers that access digital content weekly exceeds that of occasional readers and those accounts that have not registered digitally



Following pricing change – Registered subscribers had 1.4% incremental stops & Unregistered subscribers had 2.5% incremental stops



The Registered subscribers that had received a price change had lower churn than Unregistered subscribers that had not received a price change.

Following pricing change – Subscribers with weekly digital use had an incremental stop rate of 0.8%; Notice the targets retained at 90%



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Additional revenue potential from digital engagement – Reduced price elasticity provides opportunity from additional revenue from existing subs

Weekly Price Subscribers 2014 Elasticity	Unregistered \$4.25 87,073 0.17	Registered \$4.34 74,375 0.10 -41%	Frequent \$4.29 19,954 0.05 -71%	These data show the different price elasticity observed from targeted pricing across groups. The digitally engaged users have a 71% lower price elasticity than the unregistered subscribers
Flat Increase Increase Price Stops Net Incremental Revenue Net Rev Yield per Sub	Unregistered 15% 2.6% \$44,657 \$0.51	Registered 15% 1.5% \$42,850 \$0.58 12%	Frequent 15% 0.8% \$12,102 \$0.61 18%	If all groups received the same increase, the incremental revenue from digitally engaged subscribers would be 18% higher than the unregistered group and 5.2% greater than less engaged digital subscribers.
Varied Increase Price Stops Net Incremental Revenue Net Rev Yield per Sub	Unregistered 5.0% 0.85% \$15,200 \$0.17	Registered 8.5% 0.85% \$24,460 \$0.33 88%	Frequent 17.0% 0.85% \$13,701 \$0.69 293%	If the increases were adjusted to balance incremental stops across groups, the digitally engaged subscribers would yield almost 3X the net incremental revenue from the pricing change.

Listener data enables Publishers to measure engagement by Subscriber. Incorporating this data into subscription pricing decisions will increase the net incremental revenue yielded from these price changes on targeted segments up to 20%.

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Listener data enables Publishers to identify customer segments; Here two customer segments are profiled using "anchor" content and other topics they read too



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Listener Data supports digital Customer Lifetime Value (CLV) – A sample analysis is presented below showing customer CLV from content audiences

All content to the left of "sports" attracts current subscribers with a high customer lifetime value



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New Developments with Listener

- Integration with Global Mobile
 - Data can be captured on mobile customer actions directly into customer data base
 - Mobile activity will be included in customer profile and behavior modeling
- Integration with Syncronex
 - Data from meter activity by customer will be captured
 - Meter behavior will be included in customer profile and behavior modeling
- Potential integration with Press+
- Integration with Moblico
 - Mobile activity from their application/loyalty program captured directly into customer data base
- Collaboration with Cxense
 - Mather Economics and Cxense have agreed to explore integration and analytics
- Collaboration with other partners
 - We have several discussions underway with other vendors in the industry so Listener can bring their data into the customer data base and Listener data & analytics can support their activities