

# AudienceData Whitebook

Powered by AudienceProject 

High quality affinity segments



FINLAND LAST UPDATED 28.09.2017



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# Why we created the AudienceData Whitebook

No matter if you are a publisher, an agency or an advertiser there is no lack of data available when planning and running campaigns. The **problem** though is achieving success with data. The obscurity of sources of much of the data and general lack of quality of data in the market creates confusion and a multitude of metrics for the expected effect of a campaign. At AudienceProject we believe in making the complex simple - we are committed to creating transparency in the data ecosystem and empowering the users of data with a simple and trustworthy currency.

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## Understanding data targeting

### The lack of transparency in the industry

When buying data it's close to impossible to know what kind of methodology is being used and even more importantly where the data originally comes from.

### Targeting data **never** provides 100% hit rate

As data targeting is based on algorithms and not deterministic data promising 100% accuracy or in other words no impressions outside the target group is a pipe dream when running campaigns at scale. Only under very specific circumstances is advertising served directly based on deterministic user data possible. Targeting on campaigns is a balance between precision and building reach. High precision gives lower reach and vice versa.

### How data segments work

Segments are usually based on an algorithm, deriving a user's profile from the online behavior. The algorithm tries to calculate the odds of that person being in a certain segment - like male, female, young, old, interested in cars, sports etc. The more accurate the algorithm needs to be, the more people it will need to rule out thus decreasing the reach of the segment.

### We're giving you the freedom of choice

The reality is, because segment accuracy determines segment size, one segment variant simply doesn't fit all campaigns. For that reason, we're giving you the freedom of choice. Each of our segments come in different affinity variants. Essentially this means that you can pick the hit rate and size that best fit your specific campaign size, budget and plan.

### Superior segment quality

Our segments are based on some of the strongest, most reliable algorithms in the market based on some of the largest online panels. We also care a lot about privacy. The result is a series of flexible segments with a great balance between hit rate and size, along with uncompromised user privacy!

Learn more about how we build and validate our segments [here](#) or view available segments [here](#).

## Why introduce segments with different affinities?

Advertising is in essence, reaching an audience with a pervasive message in order to achieve certain goals. A traditional planning process carefully defines a target audience, analyze their online behaviour and identifies the full universe of online media properties and placements that are capable of reaching the target group. Another often more efficient option is to leverage data to help you to reach your target audience.

AudienceData enables you to spend your marketing budget on the right consumers directly, reducing the amount of impressions that are wasted. In order to pick the right strategy for any campaign you need to be able to measure and compare the effectiveness of different strategies.

Measuring the effectiveness of online media properties and placements have for years been defined by well-known metrics like affinity and reach. Measuring the effectiveness of data have however been more ambiguous. One problem that is increasingly present in many of the data audiences being offered is that behavioral data is used for classifying visitors into different demographic, interest or intent categories using increasingly complex machine learning algorithms.

The challenge with machine learning is that data scientists sometimes decide to rely on complex unsupervised learning models and end up releasing new data audiences where the algorithm that created the output is more or less impossible to understand for humans. A black-box approach. When that approach is used, the data output will often fall under Clarke's third law:

***“Any sufficiently advanced technology is indistinguishable from magic”.***

And it is hard to sell 'magic' in an increasingly data-driven world where we rely on validation, performance-KPI's and hard facts. Given the fact that all data are not created equal, AudienceProject has decided to add a declaration of content to our available demographic data segments. Moving forward our demographic audience segments will be rated by affinity.

### **Why rate probabilistic data segments using affinity?**

Affinity is the definition of a data segments performance against a particular target audience versus the performance if you target the average population. Affinity is the metric that allows you to compare the performance of programmatic data driven strategies versus traditional media placement planning. A data driven strategy should only be pursued when it delivers more value than the traditional approach.

Affinity is also the metric that quantifies the reduction in wasted impressions on any given campaign. It puts a very tangible monetary value on the value that a skilled planner can add to an online campaign.

## A simple pricing example

Let's say you're running a campaign for a luxury travel agency and the target group is people with high income. Your campaign budget is 100.000 EUR and the CPM is 4 EUR. Here's what you get, with and without data:



### The campaign **without** data



People with high income make up 10% of the online population. To keep things simple let's assume that we advertise on websites, with that same 10% distribution. This will mean that 100 out of 1.000 impressions will hit the target group. The math:

Campaign budget	100.000 EUR
CPM price	4 EUR
CPM data fee	0 EUR
Hit rate in target group	10%
Impressions	25.000.000
Impressions in target group	2.500.000
Contact price in target group	<b>40 EUR</b>

### The campaign **with** data



With our data segments, you pay a fixed CPM fee for each segment used. In this case, we only need to target on income - which has a CPM price of 0,3. We'll select the affinity 200 variant which means we'll be doubling the accuracy. So let's look at the math:

Campaign budget	100.000 EUR
CPM price	4 EUR
CPM data fee	0,3 EUR
Hit rate in target group	20%
Impressions	23.255.814
Impressions in target group	4.651.163
Contact price in target group	<b>21,5 EUR</b>

**86%** improved contact price in target group when using data



## The hidden benefits of using data

As we can see, data improves precision and price immensely. Even if you were to manually pick websites, with the promise of a good precision, chances are those websites would make you pay for it. By using data, you often hit the exact same people - but through different, smaller websites with a low CPM price. Since the campaign is spread wider across more websites, you'll reduce risk of double exposure and get a higher unique reach in your target group.

# Available segments

The following pages show our available segments. Click on each segment to learn more about segment size, affinity variations and platform availability.




## GENDER

 Male	 Female
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## AGE

 Age 18-24	 Age 18-30	 Age 18-40
 Age 20-50	 Age 25-34	 Age 35-44
 Age 41-99	 Age 45-54	 Age 51-99
 Age 55-64	 Age 65-120	






## INCOME

 Low income	 Medium income	 High income
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## CHILDREN

 Have children
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## HOUSEHOLD SIZE

 Household size of 1	 Household size of 2	 Household size of 3
 Household size of 4	 Household size of 5	

## EDUCATION

 High School education	 College or University degree	 Primary School education
 Technical education	 University Preparatory education	

EMPLOYMENT

 <b>Employed</b>	 <b>Retired</b>	<b>Student</b>
<b>Unemployed</b>		



Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Male

Devices owned by males



<p><b>2.703.571 people are in this segment</b></p> <p>That's <b>49%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>1.680.475 people in this segment are online</b></p> <p>That's <b>51%</b> of the internet population (incidence rate)</p>	<p><b>49% potential waste</b> of impressions and budget</p> <p>Without data, only <b>51 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	6.830.337	51%	0%
Male	150	4.553.558	77%	26%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population by gender" 2016

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Female

Devices owned by females



<p><b>2.786.250 people are in this segment</b></p> <p>That's <b>51%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>1.749.065 people in this segment are online</b></p> <p>That's <b>51%</b> of the internet population (incidence rate)</p>	<p><b>49% potential waste</b> of impressions and budget</p> <p>Without data, only <b>51 out of 100</b> impressions are be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	8.162.642	51%	0%
Female	150	5.441.761	77%	25%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population by gender" 2016

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 18-24

Devices owned by persons aged 18-24



<p><b>463.350 people are in this segment</b></p> <p>That's <b>8%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>480.135 people in this segment are online</b></p> <p>That's <b>14%</b> of the internet population (incidence rate)</p>	<p><b>86% potential waste</b> of impressions and budget</p> <p>Without data, only <b>14 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.385.352	14%	0%
Age 18-24	150	4.923.568	21%	7%
Age 18-24	200	3.819.551	28%	14%
Age 18-24	250	3.203.817	35%	21%
Age 18-24	300	2.695.514	42%	28%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 18-30

Devices owned by persons aged 18-30

<p><b>875.453 people are in this segment</b></p> <p>That's <b>16%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>891.680 people in this segment are online</b></p> <p>That's <b>26%</b> of the internet population (incidence rate)</p>	<p><b>74% potential waste</b> of impressions and budget</p> <p>Without data, only <b>26 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.752.806	26%	0%
Age 18-30	150	5.168.537	39%	13%
Age 18-30	200	4.045.086	52%	26%
Age 18-30	250	3.092.597	65%	39%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 18-40

Devices owned by persons aged 18-40

<p><b>1.576.996 people are in this segment</b></p> <p>That's <b>29%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>1.543.293 people in this segment are online</b></p> <p>That's <b>45%</b> of the internet population (incidence rate)</p>	<p><b>55% potential waste</b> of impressions and budget</p> <p>Without data, only <b>45 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	6.585.179	45%	0%
Age 18-40	150	5.416.427	68%	23%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015"

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 20-50

Devices owned by persons aged 20-50

<p><b>2.126.614 people are in this segment</b></p> <p>That's <b>39%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>2.092.020 people in this segment are online</b></p> <p>That's <b>61%</b> of the internet population (incidence rate)</p>	<p><b>39% potential waste</b> of impressions and budget</p> <p>Without data, only <b>61 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	8.579.526	61%	0%
Age 20-50	130	5.719.684	79%	18%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 25-34

Devices owned by persons aged 25-34

<p><b>699.460 people are in this segment</b></p> <p>That's <b>13%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>685.908 people in this segment are online</b></p> <p>That's <b>20%</b> of the internet population (incidence rate)</p>	<p><b>80% potential waste</b> of impressions and budget</p> <p>Without data, only <b>20 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.841.663	20%	0%
Age 25-34	150	5.227.775	30%	10%
Age 25-34	200	4.247.436	40%	20%
Age 25-34	250	3.006.557	50%	30%
Age 25-34	300	2.227.230	60%	40%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 35-44

Devices owned by persons aged 35-44

<p><b>663.695 people are in this segment</b></p> <p>That's <b>12%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>617.317 people in this segment are online</b></p> <p>That's <b>18%</b> of the internet population (incidence rate)</p>	<p><b>82% potential waste</b> of impressions and budget</p> <p>Without data, only <b>18 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.997.355	18%	0%
Age 35-44	150	5.331.570	27%	9%
Age 35-44	200	4.107.776	36%	18%
Age 35-44	250	3.368.103	45%	27%
Age 35-44	300	2.633.031	54%	36%

<sup>1</sup> Statistics Finland table 005\_yamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.



Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 41-99

Devices owned by persons aged 41-99

<p><b>2.836.439 people are in this segment</b></p> <p>That's <b>52%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>1.714.770 people in this segment are online</b></p> <p>That's <b>50%</b> of the internet population (incidence rate)</p>	<p><b>50% potential waste</b> of impressions and budget</p> <p>Without data, only <b>50 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	6.476.697	50%	0%
Age 41-99	150	4.317.798	75%	25%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 45-54

Devices owned by persons aged 45-54

<p><b>724.870 people are in this segment</b></p> <p>That's <b>13%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>685.908 people in this segment are online</b></p> <p>That's <b>20%</b> of the internet population (incidence rate)</p>	<p><b>80% potential waste</b> of impressions and budget</p> <p>Without data, only <b>20 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.849.677	20%	0%
Age 45-54	150	5.233.118	30%	10%
Age 45-54	200	4.019.920	40%	20%
Age 45-54	250	2.773.528	50%	30%
Age 45-54	300	2.254.155	60%	40%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 51-99

Devices owned by persons aged 51-99

<p><b>2.162.741 people are in this segment</b></p> <p>That's <b>39%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>1.063.157 people in this segment are online</b></p> <p>That's <b>31%</b> of the internet population (incidence rate)</p>	<p><b>69% potential waste</b> of impressions and budget</p> <p>Without data, only <b>31 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.702.737	31%	0%
Age 51-99	150	5.135.158	47%	16%
Age 51-99	200	3.505.363	62%	31%

<sup>1</sup> Statistics Finland table 005\_yamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 55-64

Devices owned by persons aged 55-64



<p><b>739.770 people are in this segment</b></p> <p>That's <b>13%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>583.021 people in this segment are online</b></p> <p>That's <b>17%</b> of the internet population (incidence rate)</p>	<p><b>83% potential waste</b> of impressions and budget</p> <p>Without data, only <b>17 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	6.843.483	17%	0%
Age 55-64	150	4.562.324	26%	9%
Age 55-64	200	3.517.729	34%	17%
Age 55-64	250	2.686.718	43%	26%
Age 55-64	300	1.969.258	51%	34%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month..

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Age 65-120



Devices owned by persons aged 65-120

<p><b>1.123.103 people are in this segment</b></p> <p>That's <b>20%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>240.067 people in this segment are online</b></p> <p>That's <b>7%</b> of the internet population (incidence rate)</p>	<p><b>93% potential waste</b> of impressions and budget</p> <p>Without data, only <b>7 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.497.909	7%	0%
Age 65-120	150	4.998.606	11%	4%
Age 65-120	200	4.201.223	14%	7%
Age 65-120	250	3.517.087	18%	11%
Age 65-120	300	2.872.851	21%	14%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 058\_vaerak\_tau\_104 "population by age" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Low Income

Devices owned by persons with a low income



<p><b>2.351.415 people are in this segment</b></p> <p>That's <b>52%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>1.577.588 people in this segment are online</b></p> <p>That's <b>46%</b> of the internet population (incidence rate)</p>	<p><b>54% potential waste</b> of impressions and budget</p> <p>Without data, only <b>46 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	8.439.770	46%	0%
Low Income	150	5.626.513	69%	23%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland tables: 020\_perh\_tau\_102 "Population by Area, Sex, Age, Year and Family status", 100\_tvt\_tau\_110 "Number, incomes and taxes of individuals by sex, age and income subject to state taxation, 2014, EUR 1000" and 110\_tvt\_tau\_111 "Number of spouses and taxable incomes by husbands and wives income-class 2014, EUR 1000"

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Medium Income

Devices owned by persons with a medium income



<p><b>1.355.927 people are in this segment</b></p> <p>That's <b>30%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>1.166.043 people in this segment are online</b></p> <p>That's <b>34%</b> of the internet population (incidence rate)</p>	<p><b>66% potential waste</b> of impressions and budget</p> <p>Without data, only <b>34 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.086.723	34%	0%
Medium Income	150	4.724.482	51%	17%
Medium Income	200	3.140.227	68%	34%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland tables: 020\_perh\_tau\_102 "Population by Area, Sex, Age, Year and Family status", 100\_tv\_t\_tau\_110 "Number, incomes and taxes of individuals by sex, age and income subject to state taxation, 2014, EUR 1000" and 110\_tv\_t\_tau\_111 "Number of spouses and taxable incomes by husbands and wives income-class 2014, EUR 1000"

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## High Income

Devices owned by persons with a high income



<p><b>830.579 people are in this segment</b></p> <p>That's <b>18%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>685.908 people in this segment are online</b></p> <p>That's <b>20%</b> of the internet population (incidence rate)</p>	<p><b>80% potential waste</b> of impressions and budget</p> <p>Without data, only <b>20 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.563.196	20%	0%
High Income	150	5.042.196	30%	10%
High Income	200	3.714.866	40%	20%
High Income	250	2.660.952	50%	30%
High Income	300	2.131.180	60%	40%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland tables: 020\_perh\_tau\_102 "Population by Area, Sex, Age, Year and Family status", 100\_tvt\_tau\_110 "Number, incomes and taxes of individuals by sex, age and income subject to state taxation, 2014, EUR 1000" and 110\_tvt\_tau\_111 "Number of spouses and taxable incomes by husbands and wives income-class 2014, EUR 1000"

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.



Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Have Children

Devices owned by persons with children



<p><b>1.276.662 people are in this segment</b></p> <p>That's <b>23%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>1.060.910 people in this segment are online</b></p> <p>That's <b>31%</b> of the internet population (incidence rate)</p>	<p><b>69% potential waste</b> of impressions and budget</p> <p>Without data, only <b>31 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.845.920	31%	0%
Have Children	150	5.230.613	47%	16%

<sup>1</sup> Statistics Finland table 005\_yamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_perh\_tau\_101 "families by family type and number of children" 2015

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Household size of 1



Devices owned by persons living in a household by the size of 1

<p><b>1.098.023 people are in this segment</b></p> <p>That's <b>20%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>823.089 people in this segment are online</b></p> <p>That's <b>24%</b> of the internet population (incidence rate)</p>	<p><b>76% potential waste</b> of impressions and budget</p> <p>Without data, only <b>24 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	8.609.934	24%	0%
Household size of 1	150	5.739.956	36%	12%
Household size of 1	200	3.941.522	48%	24%
Household size of 1	250	2.872.917	60%	36%
Household size of 1	300	1.415.252	72%	48%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_asas\_tau\_101 "household by area, type and size" 2014

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Household size of 2



Devices owned by persons living in a household by the size of 2

<p><b>1.738.908 people are in this segment</b></p> <p>That's <b>32%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>1.303.225 people in this segment are online</b></p> <p>That's <b>38%</b> of the internet population (incidence rate)</p>	<p><b>62% potential waste</b> of impressions and budget</p> <p>Without data, only <b>38 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	6.270.725	38%	0%
Household size of 2	150	4.180.483	57%	19%
Household size of 2	200	1.922.987	76%	38%

<sup>1</sup> Statistics Finland table 005\_yamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_asas\_tau\_101 "household by area, type and size" 2014

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Household size of 3

Devices owned by persons living in a household by the size of 3



**859.863 people**  
are in this segment

That's **16%** of the entire  
population (incidence rate)<sup>3</sup>

**514.431 people in**  
this segment are online

That's **15%** of the internet  
population (incidence rate)

**85% potential waste** of  
impressions and budget

Without data, only **15 out of 100**  
impressions will be on target

### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	8.144.001	15%	0%
Household size of 3	150	5.429.334	23%	8%
Household size of 3	200	3.830.025	30%	15%
Household size of 3	250	3.830.025	38%	23%
Household size of 3	300	2.809.063	45%	30%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_asas\_tau\_101 "household by area, type and size" 2014

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Household size of 4

Devices owned by persons living in a household by the size of 4



<p><b>943.160 people are in this segment</b></p> <p>That's <b>17%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>514.431 people in this segment are online</b></p> <p>That's <b>15%</b> of the internet population (incidence rate)</p>	<p><b>85% potential waste</b> of impressions and budget</p> <p>Without data, only <b>15 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.678.427	15%	0%
Household size of 4	150	5.118.951	23%	8%
Household size of 4	200	3.667.548	30%	15%
Household size of 4	250	2.849.442	38%	23%
Household size of 4	300	2.849.442	45%	30%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_asas\_tau\_101 "household by area, type and size" 2014

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Household size of 5

Devices owned by persons living in a household by the size of 5



<p><b>442.605 people are in this segment</b></p> <p>That's <b>8%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>308.658 people in this segment are online</b></p> <p>That's <b>9%</b> of the internet population (incidence rate)</p>	<p><b>91% potential waste</b> of impressions and budget</p> <p>Without data, only <b>9 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.232.015	9%	0%
Household size of 5	150	4.821.343	14%	5%
Household size of 5	200	3.654.379	18%	9%
Household size of 5	250	3.654.379	23%	14%
Household size of 5	300	2.552.949	27%	18%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_asas\_tau\_101 "household by area, type and size" 2014

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## High School Education

Devices owned by persons with a high school education



<p><b>1.853.693 people are in this segment</b></p> <p>That's <b>34%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>887.931 people in this segment are online</b></p> <p>That's <b>24%</b> of the internet population (incidence rate)</p>	<p><b>76% potential waste</b> of impressions and budget</p> <p>Without data, only <b>24 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	6.897.878	24%	0%
High School Education	150	4.598.585	36%	12%
High School Education	200	3.398.141	48%	24%
High School Education	250	3.398.141	60%	36%
High School Education	300	3.398.141	72%	48%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_vkour\_tau\_101 "population (15+ years) by highest level of education 2014"

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## College or University degree



Devices owned by persons with a college or university degree

<p><b>435.518 people are in this segment</b></p> <p>That's <b>8%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>1.371.816 people in this segment are online</b></p> <p>That's <b>40%</b> of the internet population (incidence rate)</p>	<p><b>60% potential waste</b> of impressions and budget</p> <p>Without data, only <b>40 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.556.294	40%	0%
College or University degree	150	5.037.529	60%	20%
College or University degree	200	952.699	80%	40%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_vkour\_tau\_101 "population (15+ years) by highest level of education 2014"

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.



Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Primary School Education



Devices owned by persons with a primary school education

<p><b>1.361.612 people are in this segment</b></p> <p>That's <b>25%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>N/A people in this segment are online</b></p> <p>That's <b>N/A</b> of the internet population (incidence rate)</p>	<p><b>N/A potential waste</b> of impressions and budget</p> <p>Without data, only <b>N/A out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	2.798.097	Coming soon	0%
Primary School	150	1.865.398	Coming soon	%
Primary School	200	1.865.398	Coming soon	%
Primary School	250	1.865.398	Coming soon	%
Primary School	300	1.865.398	Coming soon	%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_vkour\_tau\_101 "population (15+ years) by highest level of education 2014"

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Technical Education

Devices owned by persons with a technical education



<p><b>456.611 people are in this segment</b></p> <p>That's <b>8%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>N/A people in this segment are online</b></p> <p>That's <b>N/A</b> of the internet population (incidence rate)</p>	<p><b>N/A potential waste</b> of impressions and budget</p> <p>Without data, only <b>N/A out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	8.093.798	36%	0%
Technical Education	150	5.395.865	53%	9%
Technical Education	200	3.568.070	72%	17%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_vkour\_tau\_101 "population (15+ years) by highest level of education 2014"

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## University Preparatory Education



Devices owned by persons with a university preparatory education

<p><b>467.711 people are in this segment</b></p> <p>That's <b>9%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>480.135 people in this segment are online</b></p> <p>That's <b>14%</b> of the internet population (incidence rate)</p>	<p><b>86% potential waste</b> of impressions and budget</p> <p>Without data, only <b>14 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.032.302	14%	0%
University Preparatory Education	150	4.688.201	21%	7%
University Preparatory Education	200	3.942.832	28%	14%
University Preparatory Education	250	3.107.611	35%	21%
University Preparatory Education	300	2.537.134	42%	28%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

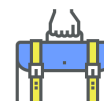
<sup>3</sup> Statistics Finland table 010\_vkour\_tau\_101 "population (15+ years) by highest level of education 2014"

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Employed

Devices owned by persons with employment



**2.396.000 people are in this segment**

That's **44%** of the entire population (incidence rate)<sup>3</sup>

**2.023.429 people in this segment are online**

That's **59%** of the internet population (incidence rate)

**41% potential waste** of impressions and budget

Without data, only **59 out of 100** impressions will be on target

### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	9.108.719	59%	0%
Employed	120	6.072.479	71%	12%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_tyti\_tau\_102 "population (15-74 years) by labour force status" 2016

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Retired

Devices owned by retired persons



<p><b>1.348.240 people are in this segment</b></p> <p>That's <b>25%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>445.840 people in this segment are online</b></p> <p>That's <b>13%</b> of the internet population (incidence rate)</p>	<p><b>87% potential waste</b> of impressions and budget</p> <p>Without data, only <b>13 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hirate in target group	Reduced wastage
Population	100	7.383.545	13%	0%
Retired	150	4.922.363	20%	7%
Retired	200	3.717.369	26%	13%
Retired	250	3.053.618	33%	20%
Retired	300	2.203.920	39%	26%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_tyokay\_tau\_101 "population (15-74 years) by main type of activity" 2014

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Student

Devices owned by students

<p><b>412.686 people are in this segment</b></p> <p>That's <b>8%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>411.431 people in this segment are online</b></p> <p>That's <b>12%</b> of the internet population (incidence rate)</p>	<p><b>88% potential waste</b> of impressions and budget</p> <p>Without data, only <b>12 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	7.579.359	12%	0%
Student	150	5.052.906	18%	6%
Student	200	4.218.507	24%	12%
Student	250	3.377.460	30%	18%
Student	300	2.708.581	36%	24%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_tyokay\_tau\_101 "population (15-74 years) by main type of activity" 2014. Students are defined as persons from age 15 and above.

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

Segment type: <a href="#">Probabilistic</a>	Country: <b>Finland</b>	Population: <b>5.489.821 people<sup>1</sup></b>	Are online: <b>3.429.541 people<sup>2</sup></b>
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## Unemployed

Devices owned by unemployed

<p><b>225.000 people are in this segment</b></p> <p>That's <b>5%</b> of the entire population (incidence rate)<sup>3</sup></p>	<p><b>274.363 people in this segment are online</b></p> <p>That's <b>8%</b> of the internet population (incidence rate)</p>	<p><b>92% potential waste</b> of impressions and budget</p> <p>Without data, only <b>8 out of 100</b> impressions will be on target</p>
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### Segment variants How do our segments stack up against the general population?<sup>4</sup>

Segment	Affinity	Devices	Hitrates in target group	Reduced wastage
Population	100	6.222.656	8%	0%
Unemployed	150	5.486.164	12%	4%
Unemployed	200	4.300.474	16%	8%
Unemployed	250	3.388.592	20%	12%
Unemployed	300	3.388.592	24%	16%

<sup>1</sup> Statistics Finland table 005\_vamuu\_tau\_101 "total population" 2016

<sup>2</sup> In order to be considered part of the online population you need to have access to a internet connection as well as utilizing the internet connection at a weekly basis or several times a month.

<sup>3</sup> Statistics Finland table 010\_tyti\_tau\_102 "population (15-74 years) by labour force status" 2016

<sup>4</sup> Numbers are from 12/3-2016. Estimates are recalculated daily.

# What is deterministic and probabilistic data?

## Deterministic data: Information about people that is known for sure

Deterministic data is digital facts about people that we trust are 100% true. Crucially, these facts will never change and the probability that they are true will always be 100%, thus they provide a solid foundation for a multitude of applications in online marketing. For example, if we know from a reliable source that a person was a 20 year old female last year then that will always be true. We can even be clever and deduce that this year the person is a 21 year old female. Knowing a person's true age and gender is certainly of high relevance to online marketers. Going beyond basic demographic information, deterministic data can take infinitely many forms, such as a person's interests, friends, geographical whereabouts etc. In practice, all these facts are linked to something that identifies a person, such as an email address or a cookie ID, which then becomes the real lingua franca of the online marketing industry.

Why is it important to have deterministic data? In a nutshell, deterministic data form a “ground truth” about users that is both useful on its own and has many important downstream applications in online marketing. On its own, we can use deterministic data to create granular custom segments. For example, we can create a segment of people who we know share an interest in golf. Now, we could go ahead and target these golf enthusiasts with relevant online campaigns. The more deterministic data we have, the larger segments we can create.

Another use case for deterministic data is campaign validation. Let's look at this use case in more detail. After a campaign has ran its course, online marketers may ask themselves whether the campaign was successful. Was it able to reach its intended audience? What was the ratio of hits to misses? How did the campaign perform with respect to the target group on individual publisher websites? All these questions can be answered if we have deterministic data for a sufficiently large subset of the exposed users.

Finally, prediction is yet another important use case for deterministic data. Prediction involves making educated guesses about a user property that we do not know from our deterministic data. For example, we might try to guess the age, gender or interests of a user in order to create probabilistic segments. Prediction is great and a necessity, but it is also a source of inaccuracy. The more deterministic data (stuff you know) you have as a training set for your algorithms, the higher combination of accuracy and reach can theoretically be achieved, leading to more impressions you will deliver on target. After you train a probabilistic model, you also need to validate if the model was successful or whether it requires more tweaking. In other words, you can have all the behavioural data the internet has to offer, but without a solid base of deterministic data you are unlikely to deliver precision in your predictions. Many publishers will nod in disappointment to this, as they have experienced how their data products/partners were unable to help their business in the way they expected. Without a large volume of deterministic data to validate your model up against, you are flying blind. This is why trying to predict audience segments based on behavioural data alone or small pools of first party user data (e.g. 1000 user surveys) makes it very hard to generate reach without compromising on precision.

You may ask yourself where all this deterministic data comes from? The answer is that deterministic data comes from a multitude of sources, which include online questionnaires, e-commerce sites, and social media. For example, web sites frequently ask their users to fill out questionnaires with details about their satisfaction level along with demographic information. E-commerce sites collect facts about people over time, such as the items they have bought and their shipping details. Social media encourage people to share facts, i.e. deterministic data, about themselves, such as their interests, employment history, and education level. All this data flows into a pipeline of deterministic data that is exchanged between different platforms on the internet, either directly or via services that are derived from the data. Crucially, we must remain critical of the sources from which deterministic data is gathered, since we promote this data to the level of digital facts about people with big consequences for targeting, campaign validation, and algorithmic segment creation.



In conclusion, deterministic data forms the valuable “ground truth” about the online population, which all other applications in online marketing are based on, that is unless we are willing to guess at random. While deterministic data offers value on its own, e.g as the basis for granular custom segments, it also forms the foundation for applications such as campaign validation and probabilistic segments, which potentially offer much bigger reach than deterministic segments. We gather deterministic data from a multitude of reliable online platforms that range from e-commerce sites to social media and questionnaires. We help publishers and agencies validate campaigns, create custom segments and predict with precision by providing high quality deterministic data panels.

## **Probabilistic data: Information about people derived from mathematical models**

Probabilistic audience data is usually based on behavioural data like web-logs that are aggregated and analysed in order to determine the probability that a user belongs to a certain demographic category or class. Advanced algorithms try to identify distinct behavioural patterns like certain travel and browsing behaviours in order to determine the probability of the user being male or female, young or old, etc. Many behavioristic models are in fact searching for distinct patterns of known human behaviour. Patterns that usually emerge due to humans being creatures of habit.

- Some audiences are more likely to consume sports- and motor-news
- Some audiences are more likely to be online at certain times of the day/week
- Some audiences own and use certain types of devices

All these habits create distinct behavioural patterns that often can be identified algorithmically in anonymised log files. The advantage of using probabilistic modelling is the ability to scale your models since you no longer have to rely on first party interactions and people providing you with their profile information as well as login information like usernames and e-mail addresses. As long as we ensure that the correct permissions are obtained, a user does not need to login and provide you with personal data before online behaviour can be observed, logged and algorithmically matched to a specific demographic target group.

While the true strength of the probabilistic approach lies in its ability to scale, it’s inherent weakness is often a lack of deterministic data to actually validate the accuracy of the model with. The question is: How do we know that our model is right? The answer is: We can validate predicted profiles if we have “ground truth” for a sufficient subset of them. For this reason, deterministic and probabilistic data are complementary.

Probabilistic modelling does not operate in absolutes, but provide classification with a degree of certainty. Validation is in other words needed in order to document the effectiveness of any probabilistic derived audience. This is why AudienceProject has chosen to deploy a combined approach where behavioristic modelling is used to classify anonymous users into demographic classes, while the deterministic data is used for testing the accuracy and precision of the models and to improve our behavioristic models iteratively. This approach gives us the benefit of high accuracy levels combined with massive scale.

## **Read more in FAQ**

At [helpdesk.audienceproject.com](https://helpdesk.audienceproject.com) you can read our FAQ and learn how to setup and use AudienceData. If you find that something is not covered in the FAQ, please reach out to us at [support@audienceproject.com](mailto:support@audienceproject.com) - we’ll be happy to answer any question you might have.