Data Intelligence Application 2018/19 Project



Advertising

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1. ***Introduction***

The product we decided to use for this project is the AMAZON ECHO PLUS. We’re basing our project on this version of the product with respect to other ones (like Echo Dot, Echo Sub etc.) because, even if the Echo Dot is the more sold product for its small price, it lacks some features like the hub for connecting more smart devices to make a more advanced “smart home”.

1.1 *Product description*

The second generation of Amazon Echo Plus was released in September 2018.

It’s a smart speaker developed by Amazon. Echo devices connect to the voice-controlled intelligent personal assistant service Alexa, which responds to the names "Alexa", "Echo", or "Computer". The features of this device include: voice interaction, music playback, making to-do lists, setting alarms, streaming podcasts, in addition to providing weather, traffic and other real-time information. It can also control several smart devices, acting as a home automation hub like, for example, Smart TV, specific appliances, lamps, windows, doors, temperature control etc. It shares design similarities with the first-generation Echo, but also doubles as a smart home hub, connecting to most common wireless protocols to control connected smart devices within a home.

We consider it more customizable than its direct competitor “Google Home” and Alexa's encourages faster and broader development and support from third-parties of its skills market.

2. ***Classes and environment description***

2.1 Features Selection

We describe our possible customers by means of 3 main features, with the following values:

* Age: Young, Adults, Retires
* Home status: Living alone, Living with family
* Welfare: Normal, Richer

We decided to divide with respect to the age because younger people are more inclined to accept new technologies to make their lives simpler than older ones. We also thought that a person who lives alone is more worn to have something that can help and fasten the way he approaches some of his daily tasks, especially if young. Of course, we consider that this product is a commodity and so, even if the price is not too large, some class of customer may not be interested in buying our product.

2.2 Class descriptions

In the following tables we show how, using the previous explained features, we’ve created our main class of customers.

For readability, we split the 3D features tensor into 2 tables according to the feature home status. In each cell of the table we reported the probability of a user to belong to that specific class.

Each colour represents one class.

|  |  |  |  |
| --- | --- | --- | --- |
| **FAMILY 0.40** | Young 0.50 | Workers 0.40 | Retires 0.1 |
| Richer 0.55 | 0,11 | 0,088 | 0,022 |
| Normal 0.45 | 0,09 | 0,072 | 0,018 |

|  |  |  |  |
| --- | --- | --- | --- |
| **ALONE 0.60** | Young 0.50 | Workers 0.40 | Retires 0.1 |
| Richer 0.55 | 0,165 | 0,132 | 0,033 |
| Normal 0.45 | 0,135 | 0,108 | 0,027 |

* **Class 1:** this class is characterized by people who live alone, like young student or worker, who have a good economic wellness and are more willing to spend money on this commodity. Young families with economic possibilities are in this class too. We assume that this is the class that we expect to click more on our advertised product.

* **Class 2:** in the second class we have other kinds of families, from younger to older, which are less incline to spend money on a product like that, so they will less probably click on our ad. Considering age , we can include in this class also older families, or retired couples, who have money to spend, and are curious about these new technologies.
* **Class 3:** this class is composed by all those people who, for different reasons, are not so interested in our product, can be for economic reason for example. But advertising the product on those people, may bring some of them to click on the product anyway.

2.3 Sub-Campaign definition

We have identified 5 different sub-campaigns:

* Search advertising:
  + ***Google***
  + ***Bing***
* Display Advertising:
  + ***YouTube***
* Social advertising:
  + ***Facebook***
  + ***Instagram***

***Google*** is the most used search engine, so it seemed mandatory to have our focus on an advertising sub-campaign on it. We assume that all the three classes use Google.

***Bing*** is the default search engine when dealing with Microsoft OS, and we are assuming that people belonging to the 2nd and 3rd class most probably have a windows based computer, since we assume it to be more user friendly, and that are not interested in changing the default web search engine.

For search advertising we are considering keywords like: “assistente vocale”, “smart speaker”, “home speaker” exc. Searching this kind of keywords will display ads and banners of our product, as form of slot for Google and ads for Bing, that will bring the user to the Amazon link to buy our product.

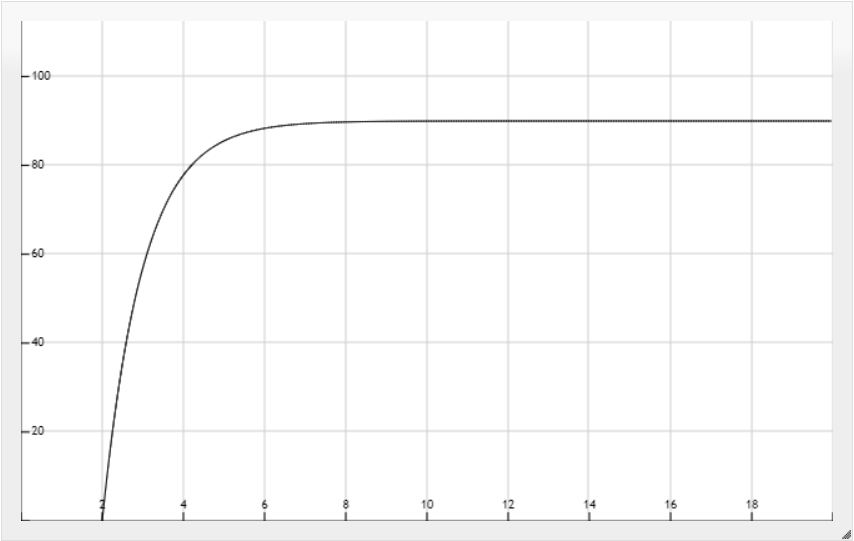
***YouTube*** is used for watching videos, and ads are displayed during the video as banners and under the video. Sometimes the ads are related to the video the user is watching, and sometimes it depends on the collected info of that user, like cookies. By displaying our product in some videos as banner, for example during tech videos, which are related to our assistant, we can assume that some user will click on the ad.

***Facebook*** and ***Instagram*** are two of the most used social networks. By displaying sponsored ads in the people feed we can increase people’s awareness in our product and make them interested in it.

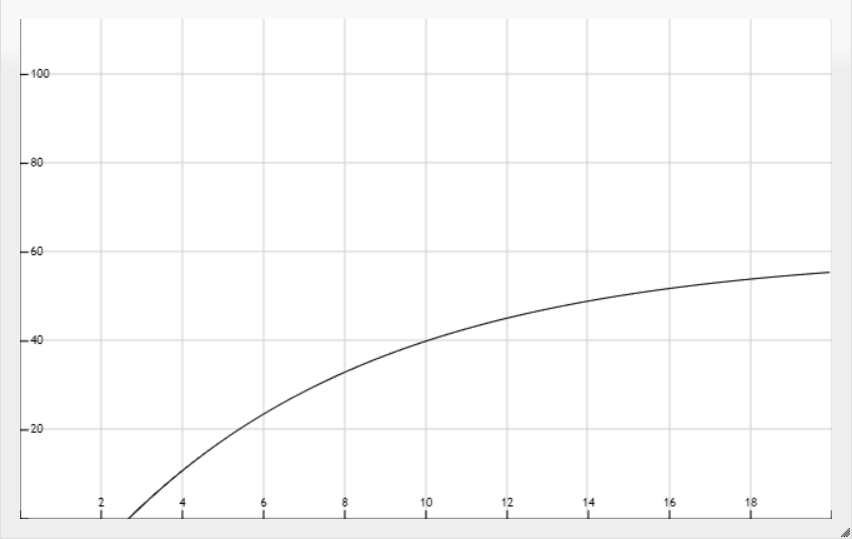
We have chosen YouTube and Instagram, which are more probably used by the first two classes, and Facebook, which is used also by people belonging to the 3rd class.

2.4 Average daily budget/clicks curves

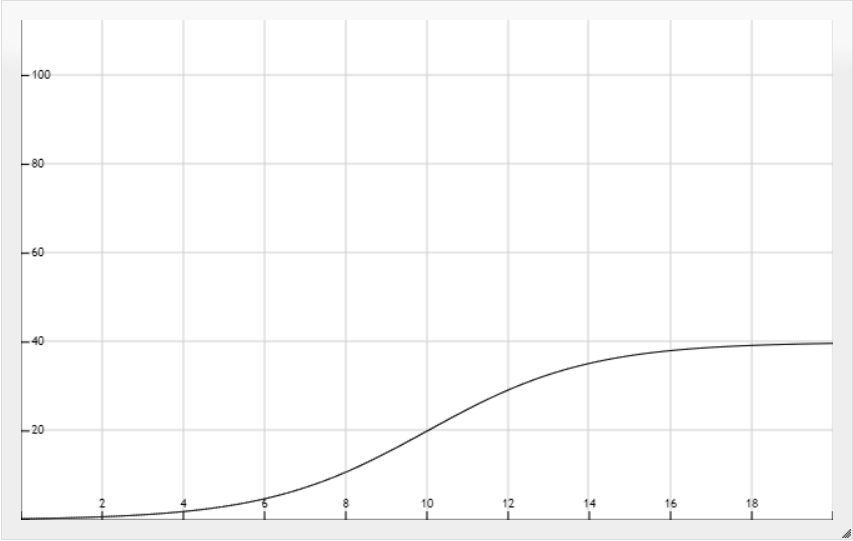
Google c1



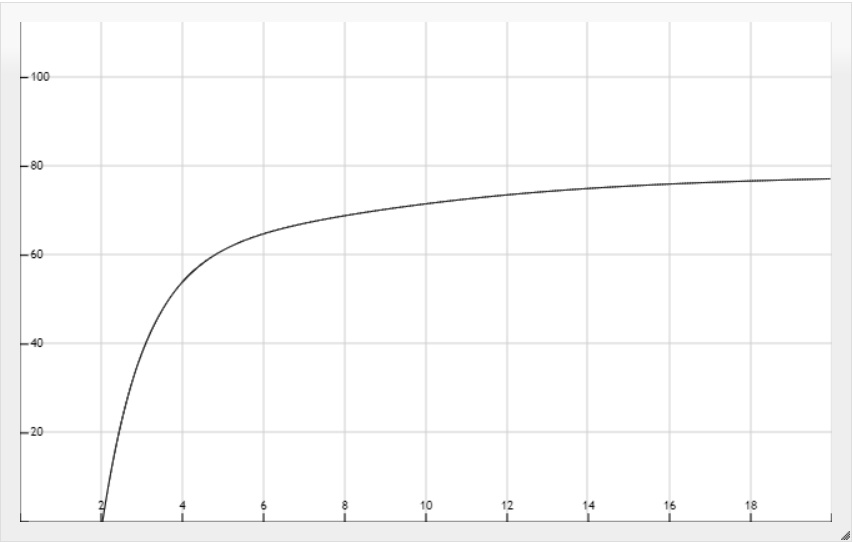
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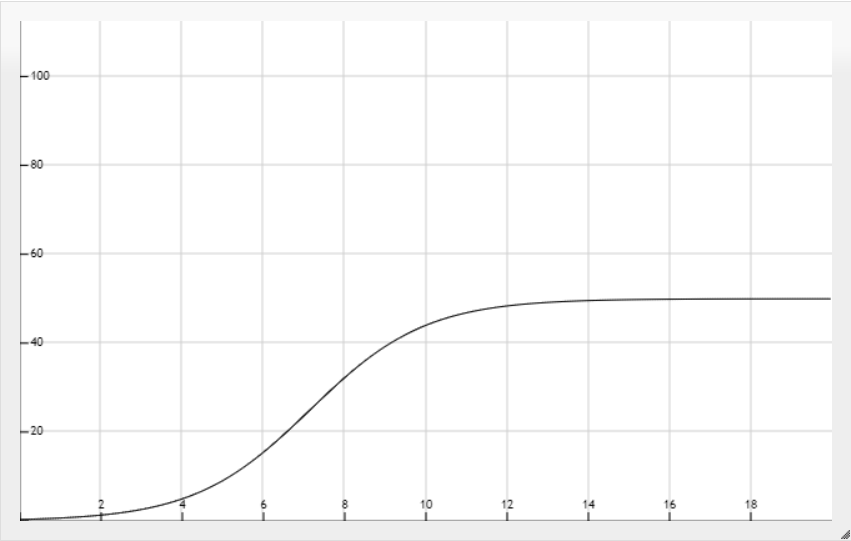
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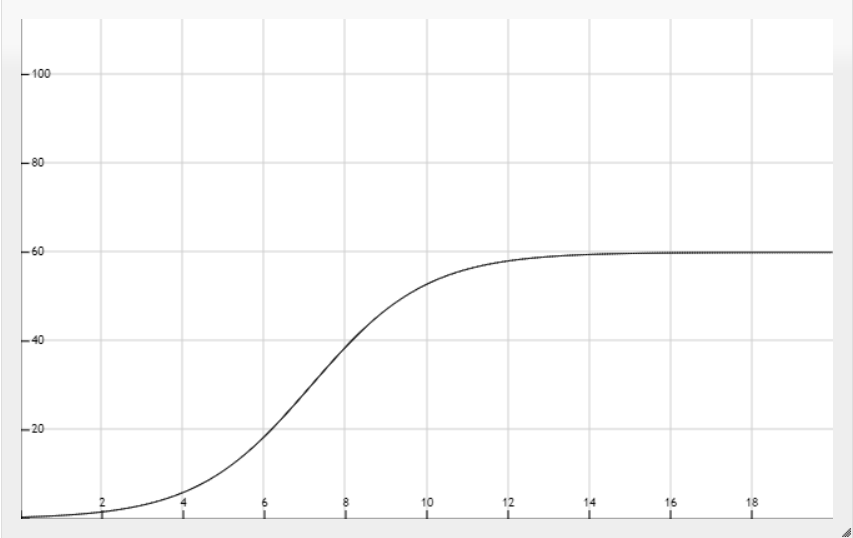
Google aggregated:



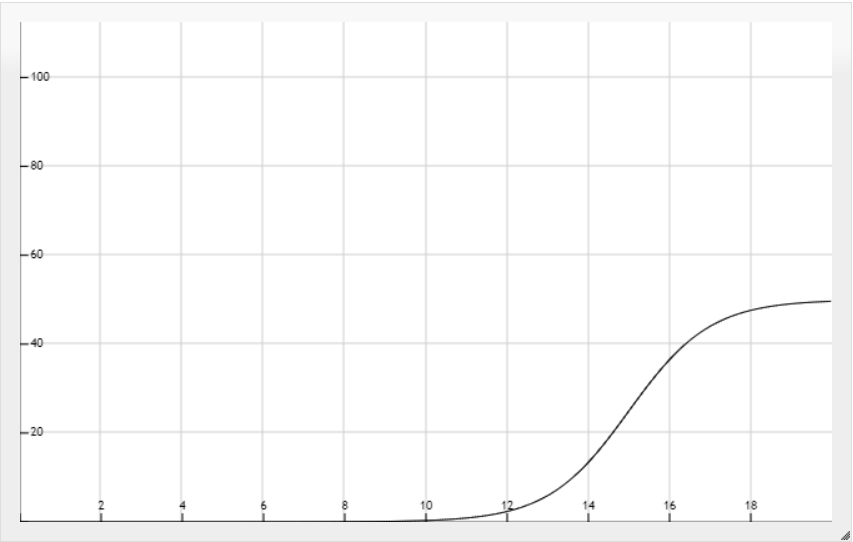
Facebook c1



Facebook c2



Facebook c3



Facebook agg

