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Experiencing the Interface

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GOOGLE'S G-SUITE ECOSYSTEM AND LACK OF

TRANSPARENCY IN DATA HANDLING

Production and consumption of culture is becoming more and more dependent on the structure of the main digital platforms which, for the western countries, are the GAFAM[1](Nieborg and Poell 4278). These platforms compete in a variety of digital services most of which rely on indirect revenue gained from extracting value from users' attention by the "Exploitation of digital audience labor" (Nixon). As human behaviour online is kept under surveillance and information about users get stored and organized, audiences get bracketed precisely, allowing platforms to tailor services around unique user profiles. Google was able to do this better and sooner than others. In 2018 70.9%[2]of Google's revenue was gained from selling advertisement or, in other words, from selling specific slices of the audience to specific advertisers. The more time users spend online (in environments where Google can track them) the more precisely Google can profile them and potentially increase users likelihood of responding to advertisements. Targeted advertising like this increases the effectiveness and hence the value of the advertising space Google offers.

Within the debate about the 'Googlization of Everything' this paper focuses specifically on the G-Suite ecosystem highlighting how it is being spread and promoted to students and businesses. Familiarity with this ecosystem reduces the likelihood of users migrating to alternative, unfamiliar products offered by Google's competitors. This effect is enhanced by Google's deceptively simple interface design and the cross-compatibility of Google products via a single Google Account. There is always a Google, or affiliated, app to complete tasks that are commonly performed digitally, promising users increased productivity and efficiency in their daily tasks. Google's business model, which resembles a Multi-Sided Platform (MSP) as defined by Hagiu and Write, gives

Google an advantage over its competitors because of *winner-takes-all* effects that are amplified by the horizontal (meaning: in different contexts rather than deepening vertically in one sector) spread that the digital environment inherently allows.

Services, platforms and software owned by Google, or provided by third parties and absorbed into Google, cover a wide range of activities done online. Worldwide 74.13% of mobile users run Google's Android[3]operating system which comes with some pre-installed apps owned by Google, such as Google Maps, G-mail and GooglePlay. As of January 2019, Google was responsible for almost 90% of global desktop search traffic and this number has been growing ever since[4]. Google is responsible for the reshaping of the digital environment itself and the many markets that operate within this space. Googlization's consequences are being attentively observed and analysed by scholars and the effects, in many fields, are object of debate. To consider all of the consequences of 'Googlization' is not what this paper aims for, the goal is rather to focus on some specific characteristics of this phenomenon, such as how the interface design of Google was able to impose itself as the standard for simplicity in use and accessibility. To do so a close inspection of the G-Suite ecosystem will be undertaken, considering how it is being spread in businesses and schools, how this may have an effect on the private life of users who are forced to use the G-Suite ecosystem in their job or studies and how all of this is carried out within the framework of Google's MSP business model. Lack of transparency on data collection and the smothering infiltration that suppresses alternatives, especially within schools (and often with schools' complicity) of the G-Suite ecosystem, are issues that need to be addressed.

GOOGLE AS AN INFRASTRUCTURE FOR MULTI-SIDED PLATFORMS

Google is a Multi-Sided Platform (MPS), it could even be argued that it is a Multi-Sided *Infrastructure*, as different MSPs are integrated as modules within the larger structure of the various arms of the business (eg. Google Maps, Youtube or the Google Search engine itself). Multi-Sided Platforms "Enable direct interactions between two or more distinct sides" (Hagiu, Wright 5) in fact most of Google's revenue comes from connecting two kinds of customers: users and

advertisers. Users are brought in with the promise of making them more efficient at handling their daily tasks and so users trade their attention for free access to services. Nonetheless, Google is not a charity and the confluence of users to its services is what attracts the actual paying customers: the advertisers. In other words, Google buys (by paying with *free services*) and then sells (for actual money) our attention, promoting designs and uses of technology that enshrine a narrow definition of productivity (Odell, 10).

Googlization has been defined by Rogers, as "An important political economy style critique of Google's taking over of one service after another"(1); this short definition, which is argued in Rogers' text "Googlization and the service-for-profile model" gives an idea of the trajectory Google is taking and what the Googlization critique seeks to analyse. The pervasive presence of Google's platforms in the digital environment is something that must be taken into consideration as a whole. The information captured about a user within a platform follows the user around and it is used to profile the user across and between multi-sided platforms. In this sense we can consider Google as an infrastructure for MSPs. "If a platform holder manages to launch at the right time, adopt an optimal pricing structure, and provide an accessible infrastructure, strong winner-take-all effects can come into play, ultimately allowing a platform to aggregate a disproportionate amount of users, revenue, and/or profit" (Brynjolfsson and McAfee).

In a market such as the digital services' one, *winner-takes-all* effects are amplified by the inherent nature of the *horizontal* growth. This happens because as multiple MSPs fall under Google's oversight, they are able to better share data, leading to more complete user profiles and a consequent increase in the value (to advertisers) of user data. The more fields an infrastructure is able to pervade, the more efficient it becomes at handling all of the affiliated MPSs and their users. The *winner-takes-all* effects are not to be considered limited to the field a certain MSP competes in, but as a cumulative propriety of the infrastructure that is increased by every MSP that succeeds at attracting users. The more users an MSP attracts, the more valuable it becomes for every side involved (Nieborg and Poell 4278) and these *network* effects reflect as well on other MSP affiliated to the same infrastructure. Thus, it becomes easier to invade new fields for an MSP

that can rely on an infrastructure that is already accumulating the beneficial *winner-takes-all* effects and *network* effects of other MSPs. As a result, any competitor is required to invest huge amounts of resources, to keep up with an established infrastructures such as Google's. As Googlization proceeds, competitors need to enter the market through Google's infrastructure. Another important aspect of the definition of MSPs provided by Hagiu and Wright, is that MSPs do not own the content they provide to customers. MSPs offer a space where different affiliated customers can directly interact but the content of the MSP, the culture that is produced and consumed, is not provided by the MSP itself.

Nonetheless, Google ranks the results in an editorial fashion that resembles *old media*, it chooses what to show and what not. The difference is that in *new-media* the users' experience is not tailored around what most users would like to see, as it was in *old media*, but is rather tailored for every single specific user. Google *rules the web* through its power to determine what gets noticed (Vaidhyanathan) with the goal of keeping users online and *harvesting* more data.

INTERFACE AND ATTENTION ECONOMY

Attention is the main commodity Google capitalizes on and it does so in two ways. First of all the more time a user spends online on Google (or affiliated) services, the more information Google is able to gather. To be considered is not only the information users are actively giving but also the information users are providing "Involuntarily and without their conscious attention" (Dalton 1032). For example, by letting Google Maps follow their movements while their phone is in their pocket or by tracking them around when they browse the web, users enable Google to profile them more precisely. The second way Google is capitalizing on attention users are providing is by feeding them specific and tailored content that will keep users interested and therefore online. The content Google provides in an *editorial* fashion, is determined with the goal of maximizing advertisement profits. Thus, keeping a user online increases profits because advertisements get better in quality and increase in quantity. In order to maximise the *harvesting* of information through attention, Google must keep users online in ways in which it can capture their behaviours

at all times. A wide set of tricks is used to achieve this, techniques that resembles Casino's design can give many insights since both business type profit from having users, or gamblers, as long as possible within their environment[5].

This paper will focus specifically on how this is achieved through interface design.

The ultimate goal of an interface is for technologies to be so seamlessly integrated that the user is not aware of using a software, but rather feels like the tasks are performed directly and without mediation (Hadler, 5). The interface itself will never disappear but, as users internalize design choices and procedures that lead them through the use of services in such a hidden and subtle way, they will forget that their behaviour is being mediated. Google's interface design has been criticized for achieving apparent ease of use through deceptive and minimalist design (Norman). Google's interfaces are not more efficient or simpler, Google interfaces are *limiting*. They give the feeling of being simple by hiding or removing everything that is complex in such a way that the users do not realize that there are more complex functions they could perform. As soon as users need to complete tasks that are out of the ordinary, Google's interfaces get messy—things get hard to find or impossible to do. Google's interfaces lack transparency: they don't show a clear overview of the services and the organizational structures are masked (Norman).

To compete with an interface that minimizes possibilities, without the users noticing how their behaviour is being limited, is hard to impossible. If approached by an unfamiliar user, any other interface would seem complicated or clunky by comparison, and the concurrent awareness of the interface design (in contrast to the unawareness with which most users interact with Google products) would disrupt the performative flow allowed for by Google. The Google Account is a perfect example of this: users are constantly logged in by default (and so Google's surveillance never stops) and they the can access a multitude of services without the need to log in, insert their information or create a new account while they can freely bounce from a platform to another. As growth in the digital environment without engaging with or emulating Google's business model becomes harder, competitors no longer ask how to beat Google, but rather how to be like Google— "What would Google do?" (Powezek). Interfaces get standardized by the need to follow Google's

design, or to the point of being organically absorbed into Google's infrastructure. "Everybody loves using Google. Therefore, does not everybody want the same simple design on every site they visit? (...) People are calling this approach HomePage Googlization" (Spool).

AN OVERVIEW ON THE G-SUITE PACKAGE

The G-Suite package comes in two variants, the one for education and the one for businesses. The services provided are more or less the same ones, with some being specific for either of the packages. G-Suite comprises:

- Connect:

    - Gmail; Calendar; Currents; Hangout Chats; Hangout Meets; Hangout Chat Hardware.

- Create:

    - Docs; Sheets; Slides; Forms; Sites; App Script; App Maker; App; Keep.

- Access:

    - Drive; Google Cloud Search.

- Control

    - Admin; Vault; Mobile; Work Insights.

- Education Specific:

    - Groups; Classroom.

This is how the G-Suite package is sorted on Google's website, apps are divided into groups based on their purposes and are defined by a catch phrase provided by Google: the Connect package, *Reach your colleagues wherever they are*, is intended to improve communications and to keep track of deadlines, events or happenings; the Create package, *Everything you need to bring your project to life*, contains apps dedicated to the creation of files such as text documents, calculus

sheets, slides and apps creation; the Access package, *Store files and find what you need instantly*, is made to facilitate access to personal or shared drives; the Control package, *Manage users, devices, and data securely and easily*, is for administrator and teachers accounts and provides ways to manage single users account and gives general insights about the business or the class; the Education package offers some tools to conduct lessons and organize classrooms. These apps are meant to be used online and they require a Google Account to be accessed. Nonetheless, some of the apps may also be used offline when an Administrator account allows it. The files will then be synchronized with the online versions of the files as soon as the device used to modify the files gets online again.

CONSIDERATION ON G-SUITE ECOSYSTEM

G-Suite is rapidly increasing its client base both in education and business. The latest numbers provided by Google state 5M business, some of which have thousands of employees, at the beginning of 2019, and over 80M users in education, both students and teachers. While for education G-Suite is free, for businesses it has a monthly price per user that ranges from 5$ to 25$. Besides the monthly revenue that this provides to the tech giant, what is interesting to consider is the enormous number, and growing over time, of users who have to use the G-Suite ecosystem to perform their tasks at work or at school. Being forced to internalize the interfaces of these app could easily stretch the use of Google Apps to every other sphere of one's life. If a user already knows how an interface works, learning to use another app for the same task might seem to require unnecessary effort. This is particularly relevant when keeping in mind Norman's argument that Google does not necessarily provide the best or most functional computing solution, merely the one that appears the most simple by hiding complexity, often at the cost of losing functionality. Once Google has established itself as the easiest interface and is able to retain customers because competitors seem complex, the next step is to make Google products ubiquitous in office and education environments. The process of infiltrating businesses is slower and harder than schools since most businesses already rely on another infrastructure and it is not easy to get employees to

learn a new software. For students, also thanks to the k-12 program, it is easier since for many G-Suite will be the first productivity software they will use. Google says that for businesses it takes an average of 5 years to switch completely from a competitor, which in most cases is the Office package, to G-Suite. Nonetheless, Google was able to increase exponentially the number of businesses that switched to G-Suite, by providing a cheaper service than Microsoft and by promoting it into third party platforms that rely on Google such as, for example, Uber. G-Suite promotes itself as a better solution that makes businesses, leaders of innovation in their sector by switching to their packages.

What happens in schools is slightly different. G-Suite for education is free and this saves institutions a lot of money compared to services that provide similar software but require a payed subscription, such as the Office365 package[6]. A parallel development to the creeping prevalence of G-Suite apps in office and education contexts is the introduction of the Chromebook—a hardware counterpart to increasing soft Googlization. Chromebooks are laptops that cut hardware and OS costs by relying on cloud services to run most apps and to store files, and by using Chrome-OS (which is a Linux based free OS designed by Google) to replace Microsoft's expensive Windows OS. Chromebooks are produced by the same companies that produce regular laptops and the starting price for a Chromebook can be as cheap as 200$. It is now estimated that in the US 60% of the laptops used by students are Chromebooks, these laptops are meant to be used online and users are required to log-in with a Google Account. Students at primary schools, as young as 7 years old, are already using Google services. Having a Google Account is required by many schools without the chance to opt out. This raises many concerns about privacy since Google could start profiling kids from a very young age while they internalise the Google's interface design as well.

The Electronic Frontier Foundation (EFF) has accused Google's role in children's lives. They claim that their G-Suite ecosystem collects "Far more information on kids than is necessary and store this information indefinitely", especially criticizing Chromebooks. These laptops are often handed out for a discounted price or for free to students and schools; schools have been creating Google Accounts for students using their information without explicit consent from the

students or their parents. Reason of concerns for the EFF is also the "Lack of transparency, lack of choice, and a technical landscape that has outpaced legal safeguards". Since then Google has stated that it will never use data collected from students to target them with advertisements but only to better their services, they have also provided the option to opt-out from the data collection done on Chromebooks. Giving the chance to opt out from the auto sync of Chrome's browser history and to opt out from the data collection that happens when using any service that is not strictly included in the G-Suite ecosystem, is a step forward but the EFF still thinks this is not enough. Even if we believe that Google would not use the attention of G-Suite customers, some of which are paying to access G-Suite as businesses do, to harvest more information, Google do collect data on the G-Suite users. What will happen to the data collected from students once they reach the end of their studies? Google has not provided a clear answer when answering this question and this is worrying. Google has already been the object of scandals for selling information that you agree for them to see when creating a Google Account even if they declared they would never sell them[7].

CONCLUSIONS

Google is establishing itself as one of the main platforms for digital services by taking over *a service after another*. The MSP business model is particularly efficient in the digital services market since *winner-takes-all* and *network* effects are not limited to specific platforms but rather empower the whole infrastructure. This happens because Google is spreading horizontally by absorbing or creating platforms for different purposes that collide together in a wider infrastructure thanks to interface designs such as the Google Account that unites all the MPSs. Since the design choices make the interface look simple but are actually merely *minimal and deceptive*, they create the impressions of user friendliness while limiting users possibilities. The Google Account is a powerful tool that works as a *passepartoute* for every platform within the infrastructure while tracking and profiling users. Switching to another service provider that is not sharing the interface design choices nor the Google Account requires extra efforts for the users. Due to its wide spread across the internet, it is now almost impossible to compete with Google or to avoid its technologies which have become ubiquitous in the digital domain. This enhances once more the *winner-takes-all* effects. Once this structure is established the need is to increase the users within the infrastructure. The spread of G-Suite ecosystem and Chromebooks are an example of this.

Both in business and schools, Google is imposing itself as the main provider for a huge variety of services that are needed to keep employees and students productive. This is pushed by lower prices than the competition or by offering completely free services. In addition to this, discounted or free Chromebooks are provided to students. Employers and Schools impose the use of these software for economic reasons often not considering the privacy implications that this has on the users. Google has been accused, especially for programs like the K-12, of data-mining underage students without their permission, or their parents'. G-Suite is also *hooking* children from a very young age to the Google's interface and the Google Account use. Even if Google has stated that the information gathered will only be used for bettering their services and not to target students with advertisement, a lot of data is mined. These statements are not enough when considering that Google has not kept its word in the past and has sold information it said it would never sell. In fact,

the agreement required to create a Google Account allows them to. Google's lack of transparency on the use of data in the long term, along side with the lack of alternatives provided by institutions and many businesses, are issues to be addressed. This is not to say that Google's services should be avoided at all costs, but that employees and students should be allowed to use alternatives in their office and school environments. Technical and economical advantages should not be a strong enough reason to force users to leave the legal landscape that protects their privacy.

Notes

1. Google, Apple, Facebook, Amazon and Microsoft

2. According to statcounter.com

3. According to statcounter.com

4. According to statista.com

5. Natasha, D. School "Addiction by Design: Machine Gambling in Las Vegas" Princeton University Press 2012. Chapter 1 "Interior design for interior states: Relearing from Las Vegas" (50), provides many examples of design choices that resembles Google's, and other digital services providers, interface design choices.

6. www.nytimes.com/2017/05/13/technology/Google-education-chromebooks-schools.html Accessed on 12 January 2019

7. www.fastcompany.com/90349518/Google-keeps-an-eye-on-what-you-buy-and-its-not-alone

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