

Big Data

for measuring the digital economy

A project of the 10th tranche of the UN - Development Account



Keep calm and web-scrape on: Lessons learned from the use of Big Data to inform public policies

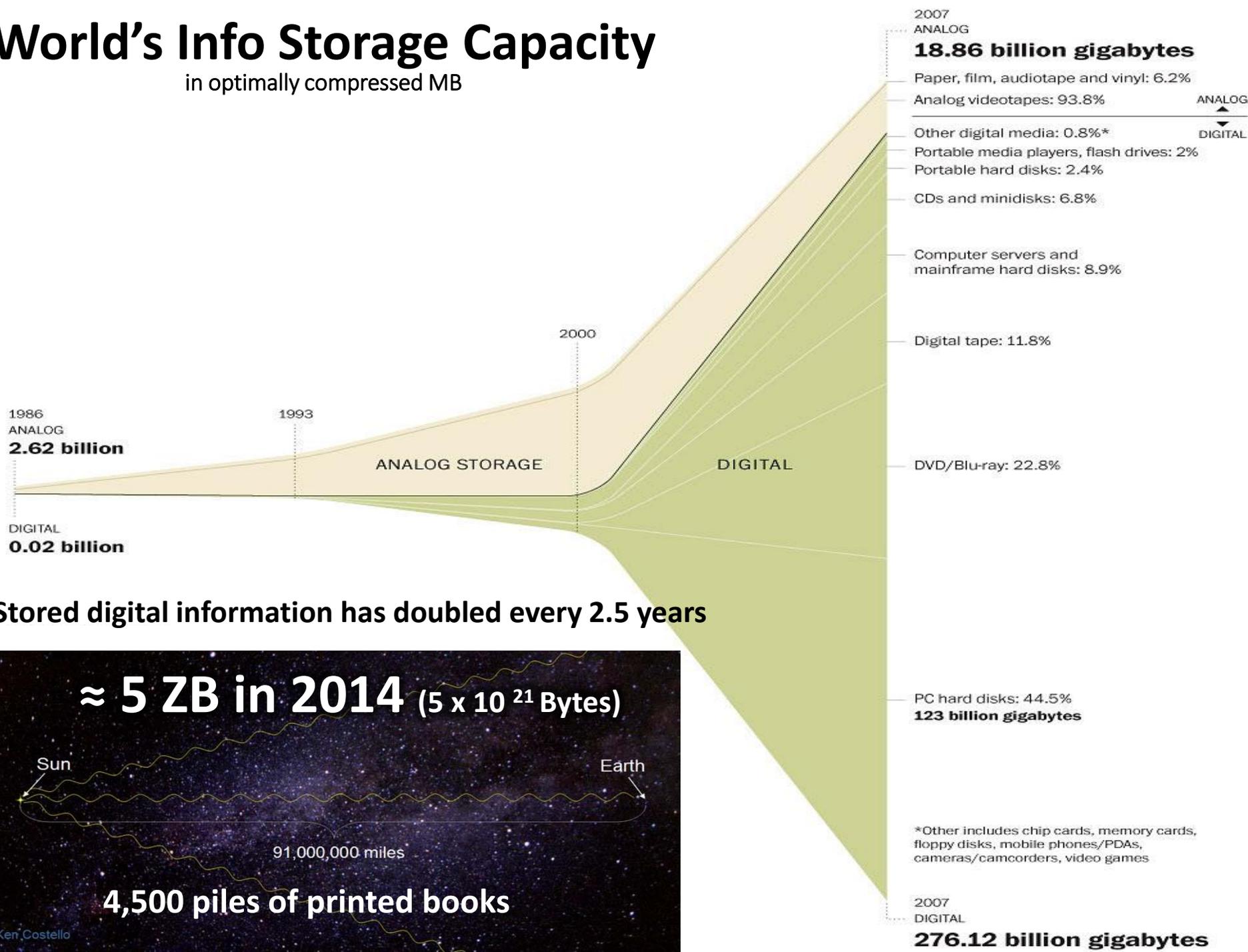


UC DAVIS
UNIVERSITY OF CALIFORNIA

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Computer Science; Data Science Int.
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hilbert@UCDavis.edu

World's Info Storage Capacity

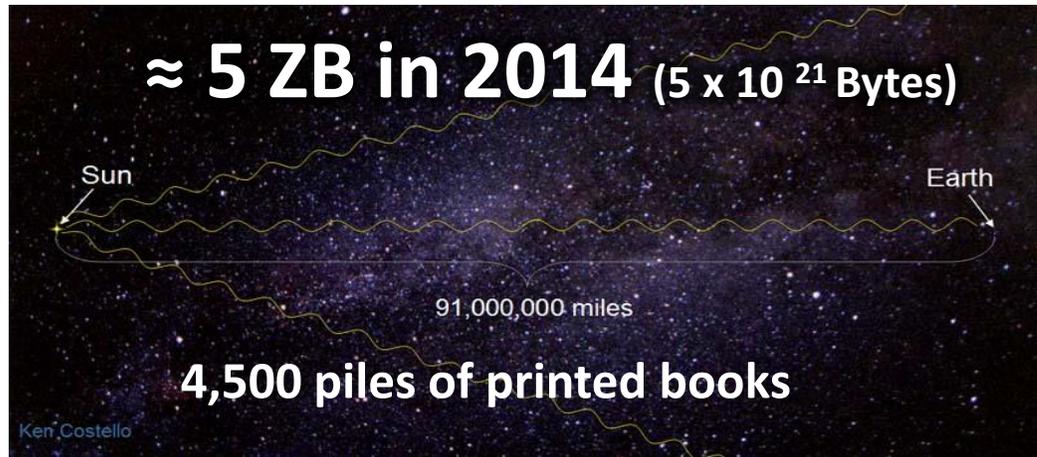
in optimally compressed MB



Hilbert & López (2011).
The world's technological capacity to store, communicate and compute information.

Science, 332, 6025, 60-65
www.martinhilbert.net/WorldInfoCapacity.html

Stored digital information has doubled every 2.5 years



Most valuable companies on Fortune 500

2019

	Rank	Brand	Brand Value	1-Yr Value Change	Brand Revenue	Company Advertising	Industry
	#1	Apple	\$205.5 B	12%	\$265.8 B	-	Technology
	#2	Google	\$167.7 B	27%	\$136.2 B	\$6.4 B	Technology
	#3	Microsoft	\$125.3 B	20%	\$110.2 B	\$1.6 B	Technology
	#4	Amazon	\$97 B	37%	\$211.4 B	\$8.2 B	Technology
	#5	Facebook	\$88.9 B	-6%	\$48.8 B	\$1.1 B	Technology
	#6	Coca-Cola	\$59.2 B	3%	\$23.8 B	\$4.1 B	Beverages
	#7	Samsung	\$53.1 B	11%	\$221.6 B	\$3.6 B	Technology
	#8	Disney	\$52.2 B	10%	\$33.8 B	\$2.8 B	Leisure
	#9	Toyota	\$44.6 B	0%	\$190.8 B	\$4.6 B	Automotive
	#10	McDonald's	\$43.8 B	6%	\$96.1 B	\$389 M	Restaurants

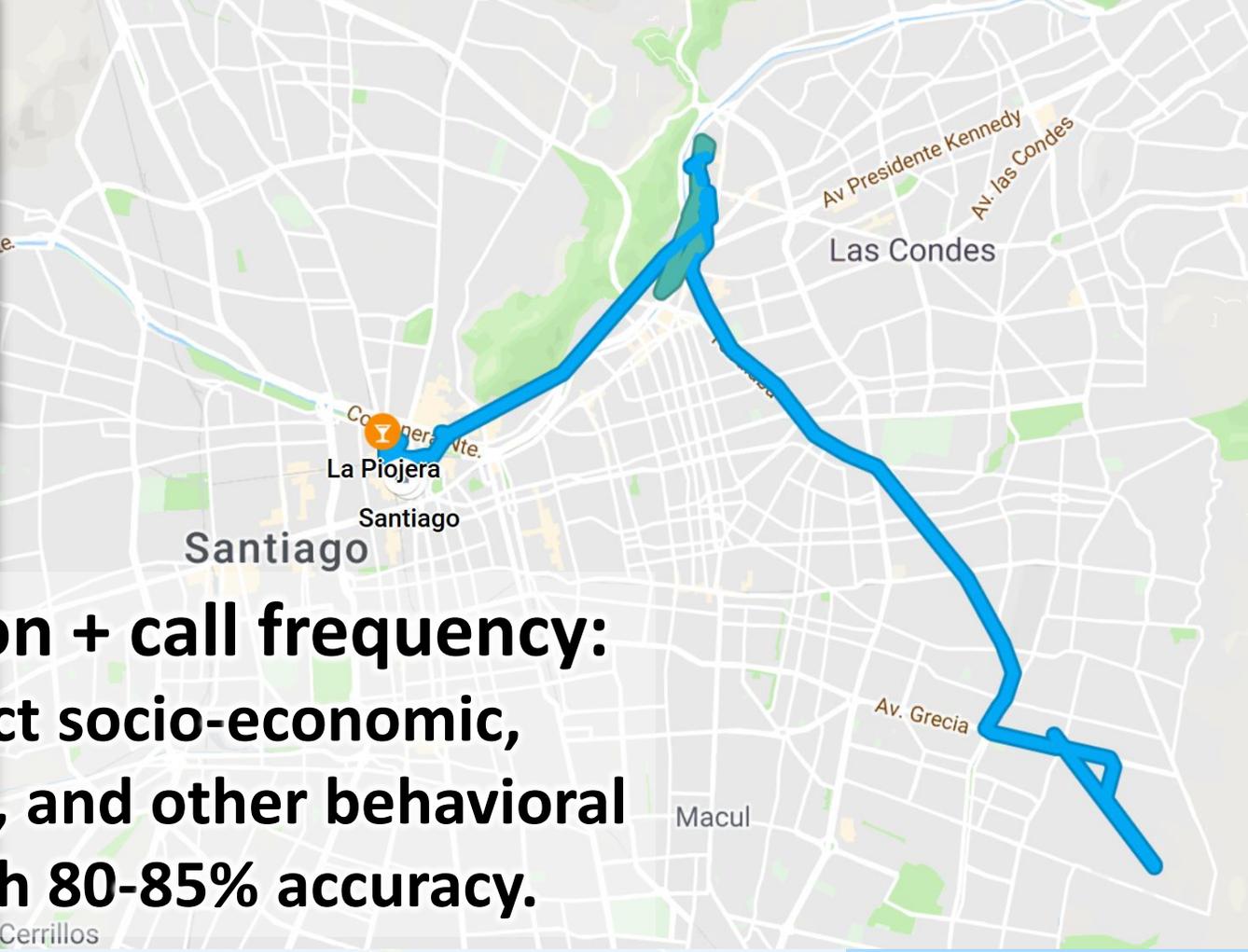


Timeline TODAY

2013 ▾ December ▾ 11 ▾

Evening at La Piojera
Wednesday, December 11, 2013

2.5 km
37m 4.5 km
23m



**Call duration + call frequency:
can predict socio-economic,
demographic, and other behavioral
traits with 80-85% accuracy.**

Sources: Raento, M., Oulasvirta, A., & Eagle, N. (2009). Smartphones: An Emerging Tool for Social Scientists. *Sociol. Methods & Research*, 37(3), 426–454.
Frias-Martinez, V., & Frias-Martinez, E. (2014). Spectral clustering for sensing urban land use using Twitter activity. *Engin. Appl. of Artificial Intell.*, 35, 237–245.
Frias-Martinez, V., & Virseda, J. (2013). Cell Phone Analytics: Scaling Human Behavior Studies into the Millions. *ITID*, 9(2), pp. 35–50.
Frias-Martinez, V., Frias-Martinez, E., & Oliver, N. (2010). A Gender-centric Analysis of Calling Behavior.... *AAAI 201 Artificial Intelligence for Development*.
Blumenstock, J. E., Gillick, D., & Eagle, N. (2010). Who's Calling? Demographics of Mobile Phone Use in Rwanda. *AAAI 201 Artificial Intelligence for Development*.

Labor Market
8 + 8 + 7 countries



- Argentina
- Brazil
- Ecuador
- Mexico
- Chile
- Colombia
- Peru
- Uruguay



- Argentina
- Brazil
- Chile
- Colombia
- Ecuador
- Mexico
- Peru
- Venezuela



- Argentina
- Chile
- Ecuador
- México
- Panamá
- Perú
- Venezuela

Finance & Entrepreneurship
17 countries



Loans that change lives

North America

- Canada (0)
- Dominican Republic (19)
- Haiti (25)
- Mexico (66)
- Puerto Rico (0)

Central America

- Belize (0)
- Costa Rica (16)
- El Salvador (270)
- Guatemala (39)
- Honduras (107)
- Nicaragua (113)
- Panama (0)

South America

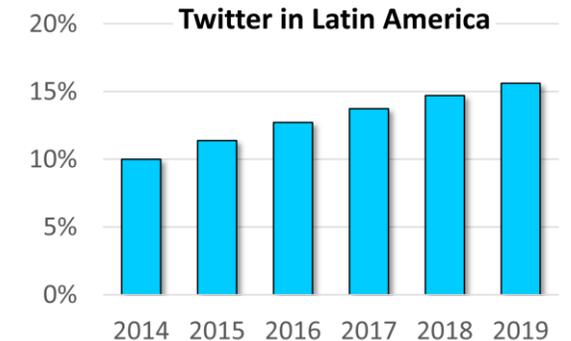
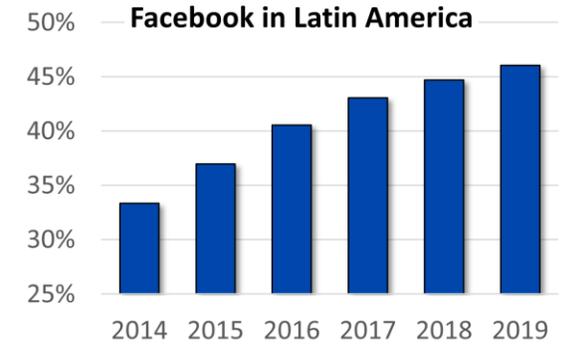
- Bolivia (21)
- Brazil (20)
- Colombia (597)
- Ecuador (111)
- Paraguay (52)
- Peru (253)

Commerce & SMEs
18 countries

- Argentina
- Bolivia
- Brasil
- Chile
- Colombia
- Costa Rica
- Dominicana
- Ecuador
- Guatemala
- Honduras
- México
- Nicaragua
- Panamá
- Paraguay
- Perú
- Salvador
- Uruguay
- Venezuela

...and many more...

Demography & Sociocultural
33 countries



Freelancers For Hire

Showing 6870 Results

Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Panama

Search for freelancers

What work do you require?
Websites IT & Software, Select a job

Skills

fuentro
4.7 ★★★★★ 6.1 \$ 36 reviews \$35 USD per hour
Hire Me

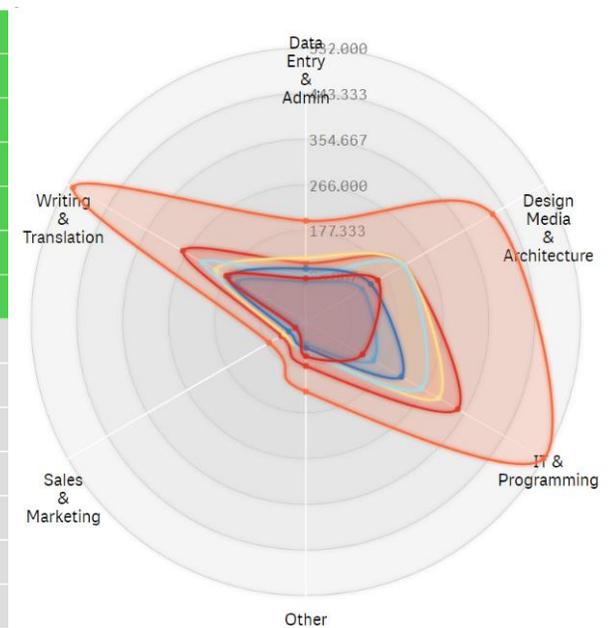
Microsoft Access, Excel, Data Entry, Azure, C# Programming
Hi, my name is Rodrigo. I have 7+ years of experience in Software Development, Web Development, App Development. My main expertise are: - JavaScript - React - C# - ASP.NET - Xamarin Form Platform Apps - DevExpress eXpress App Framework (XAF) - Microsoft Access - Python - SQL - VBA - Excel - HTML ...

Meccax
4.9 ★★★★★ 6.6 \$ 41 reviews \$30 USD
Hire Me

Website Design, PHP, Graphic Design, WordPress, Javascript
I am Julio Sánchez (Full Stack Web Developer) based in Dominican Republic focused on delivering the best and most cost-effective solutions to our provide offshore software development and maintenance services ("outsourcing") for companies and individuals. → Web Development → PHP And JavaScript → PHP Frameworks ...

	A	B	C
1	ID	use ID	Content
2	1	Sinclair	Trackers Are Some Of The Mo
3	2	Scott	Navarro: Pruitt makes DeVos
4	3	DEA	What a DEA agent did after b
5	4	NRA	The Most Horrifying Artificial
6	5	DFA	How to make animated LOW
7	6	Joe	EXPOSED: Billionaire Bigots Sp
8	7	Ted	What AI Franken Said To Tod
9	8	Judge	Rock Island Armory M191
10	9	Hi	How to make animated LC
11	White	#1 Trump Leaker EXPOSED	
12	Can	How to make animated LC	
13	12	Trump	President Donald Trump D
14	13	White	Student ejected for telling
15	14	Scott	How Manafort's Attack On M
16	15	New	7 Most POWERFUL and Dang
17	16	Alexandria	Democrat Wins In Latest Sign
18	17	Suddenly	CORRECTION: Pulse Shooter Y
19	18	LOL	Suddenly Progressive Andrew
20	19	Whazz	How to Create Animated Mat
21	20	Me	How to Create Animated Mat

- Costa Rica
- Dominican Republic
- El Salvador
- Guatemala
- Honduras
- Nicaragua
- Panama
- Venezuela
- Bolivia
- Brazil
- Chile
- Colombia
- Ecuador
- Mexico



Celulares y Telefonía

Celulares y Smartphones

31.120 resultados

Ordenar publicaciones: Más relevantes

Tiendas oficiales: Solo tiendas oficiales (377)

Categorías: iPhone (7.877), Samsung (6.423), Huawei (3.733), Xiaomi (1.505), Motorola (1.445), LG (1.144), Sony (887), Nokia (608), Alcatel One Touch (328)

Samsung Galaxy S10 128gb Con 2gb
por Virgin Mobile
\$729.999
\$ 589.990 19% OFF
6x \$ 98.331 sin interés
Envío gratis
3 vendidos

Motorola Moto G6 F
Regalo - Motorola por Motorola
\$459.999
\$ 129.990 18% OFF
6x \$ 21.665 sin interés
Envío gratis
257 vendidos

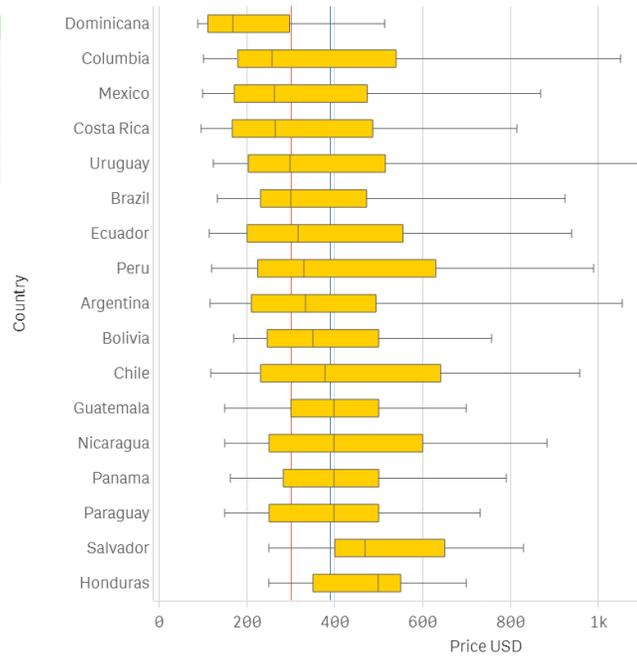
Huawei P20 Lite 32gb 4g
\$299.999
\$ 167.890 20% OFF

	A	B	C
1		userid	sumSPS
2	1615	37938	74,874
3	2525	45094	37,534
4	919	29033	37,15
5	4723	56043	36,31
6	2762	46261	35,11
7	10167	107477	34,88
8	2268	44616	33,87
9	1437	37206	32,32
10	10572	109194	31,801
11	2347	44785	30,337
12	4572	55535	30,326
13	565	27899	30,048
14	9615	96126	29,766
15	3781	51245	29,691

- Celulares y Smartphones
- Computadoras y Servidor...
- Drones
- Laptops y Tablets
- Procesadores
- Redes y Redes Inalambr...
- Software

Average Price
\$389.80

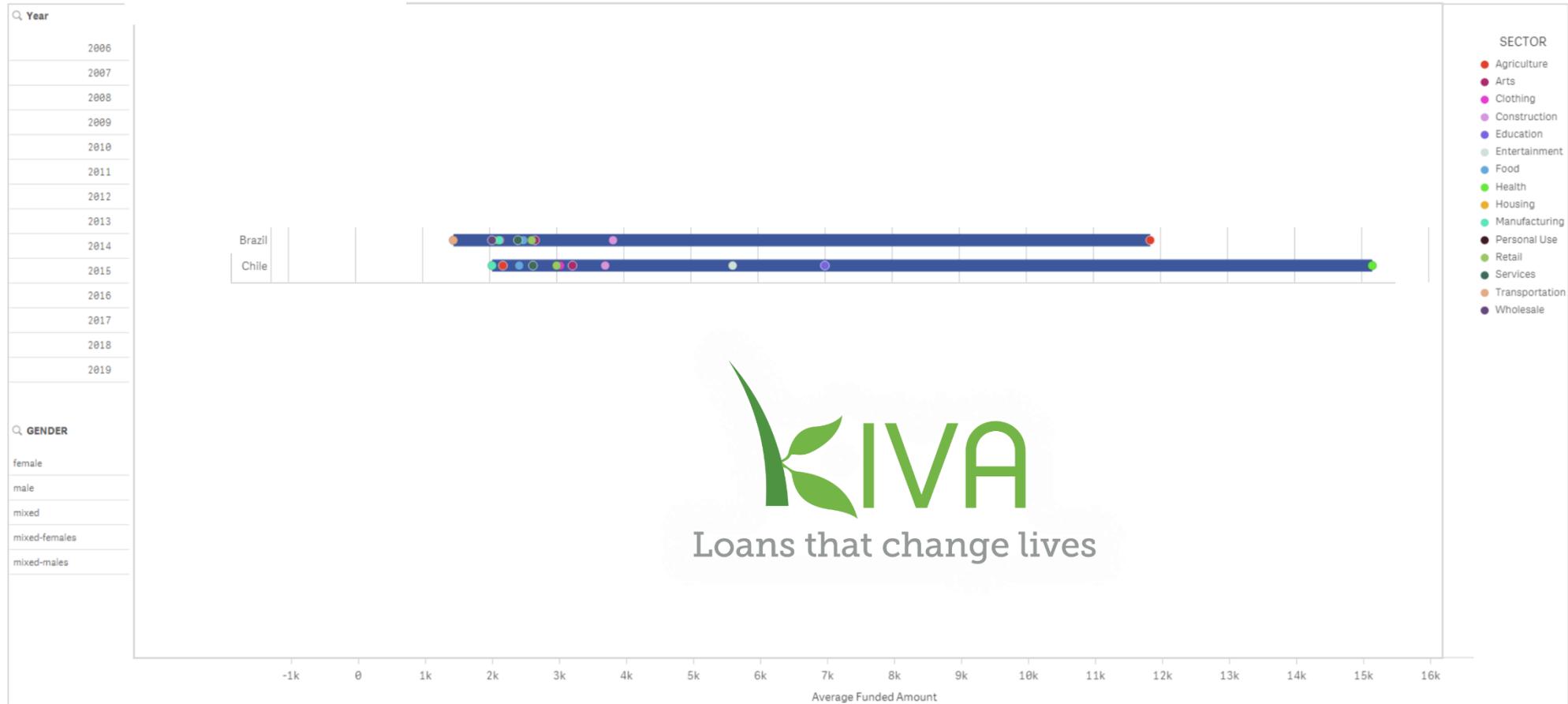
Median Price
\$300.00



- 1) Definition of indicators**
- 2) Source selection**
- 3) Representativeness & Generalizability**
- 4) Harmonization**
- 5) Data quality**
- 6) Substantive domain knowledge**
- 7) Automated classifier**

- 1) Definition of indicators**
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1,551,384 crowd-financed loans: avg. loan amount



25 countries/regions

1,551,384 crowd-financed loans: avg. loan amount

15 sectors

14 years

5 gender settings

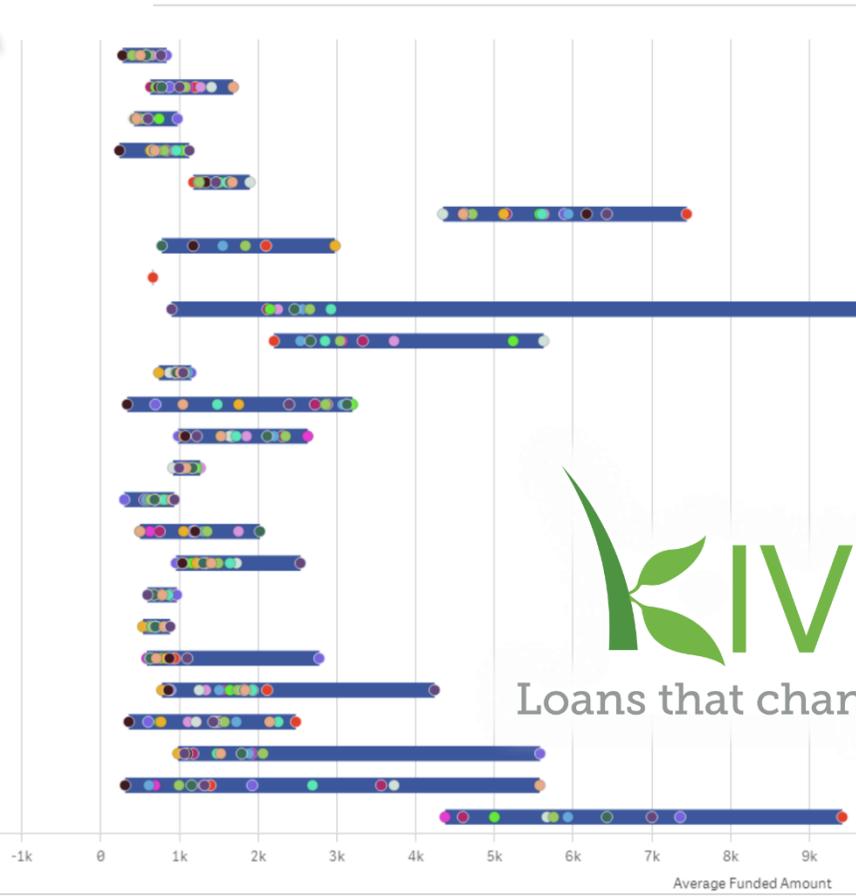
Q Year

2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019

Q GENDER

female	✓
mixed-females	✓
male	
mixed	
mixed-males	

- East Asia & Pacific
- Europe & Central Asia
- South Asia
- Sub-Saharan Africa
- Middle East & North Afr...
- North America
- Suriname
- Belize
- Brazil
- Chile
- Peru
- Paraguay
- Bolivia
- Ecuador
- Colombia
- Panama
- Costa Rica
- Nicaragua
- El Salvador
- Honduras
- Guatemala
- Mexico
- Dominican Republic
- Haiti
- Puerto Rico



- SECTOR
- Agriculture
 - Arts
 - Clothing
 - Construction
 - Education
 - Entertainment
 - Food
 - Health
 - Housing
 - Manufacturing
 - Personal Use
 - Retail
 - Services
 - Transportation
 - Wholesale



From total variables	Choose as many	Number of possible graphs
59	1	59
	2	1,711
	3	32,509
	4	455,126
	5	5,006,386

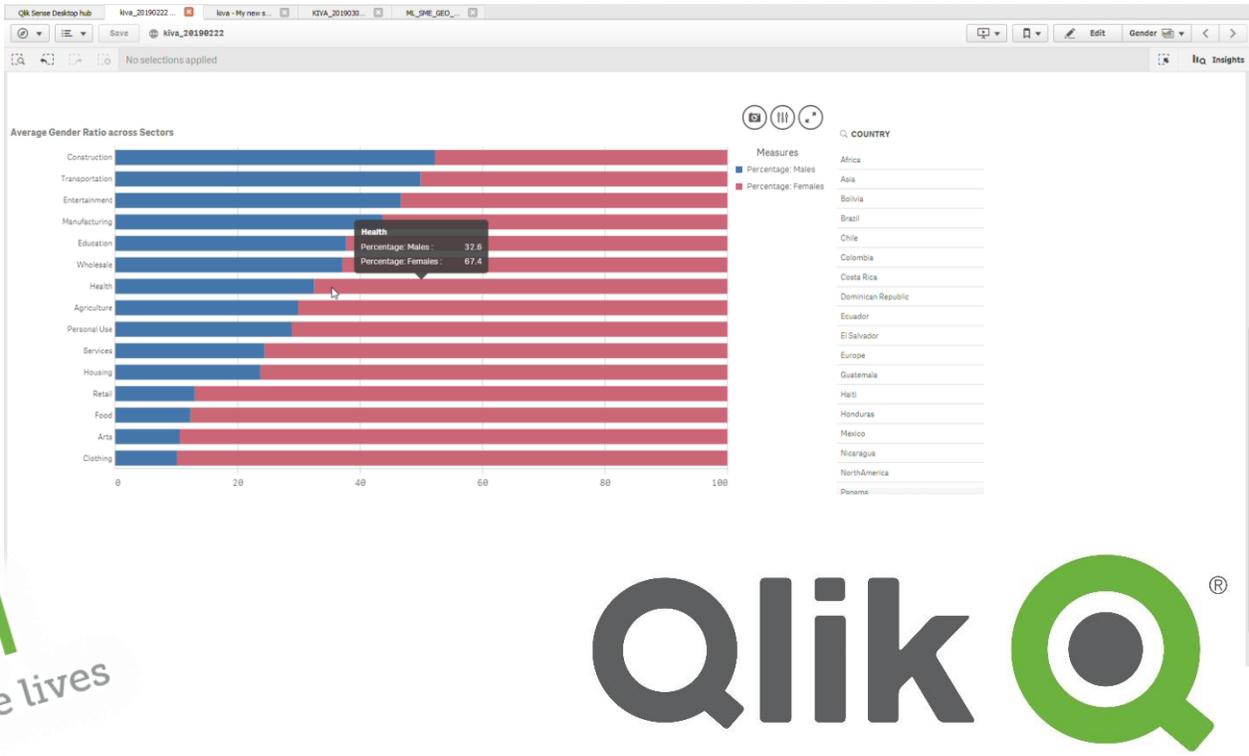
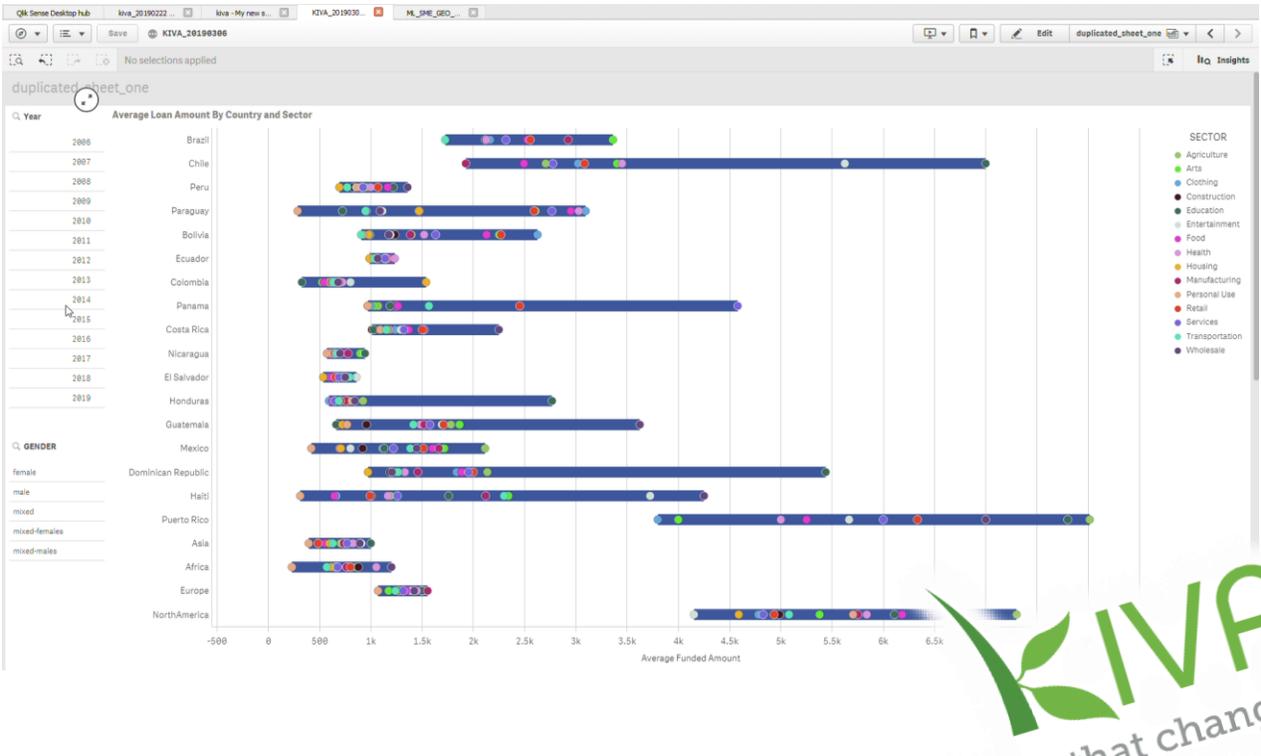
	29	55,317,304,280,338,400
	30	55,317,304,280,338,400

	54	5,006,386
	55	455,126
	56	32,509
	57	1,711
	58	59
	59	1
Total number of possible combinations		576,460,752,303,423,000

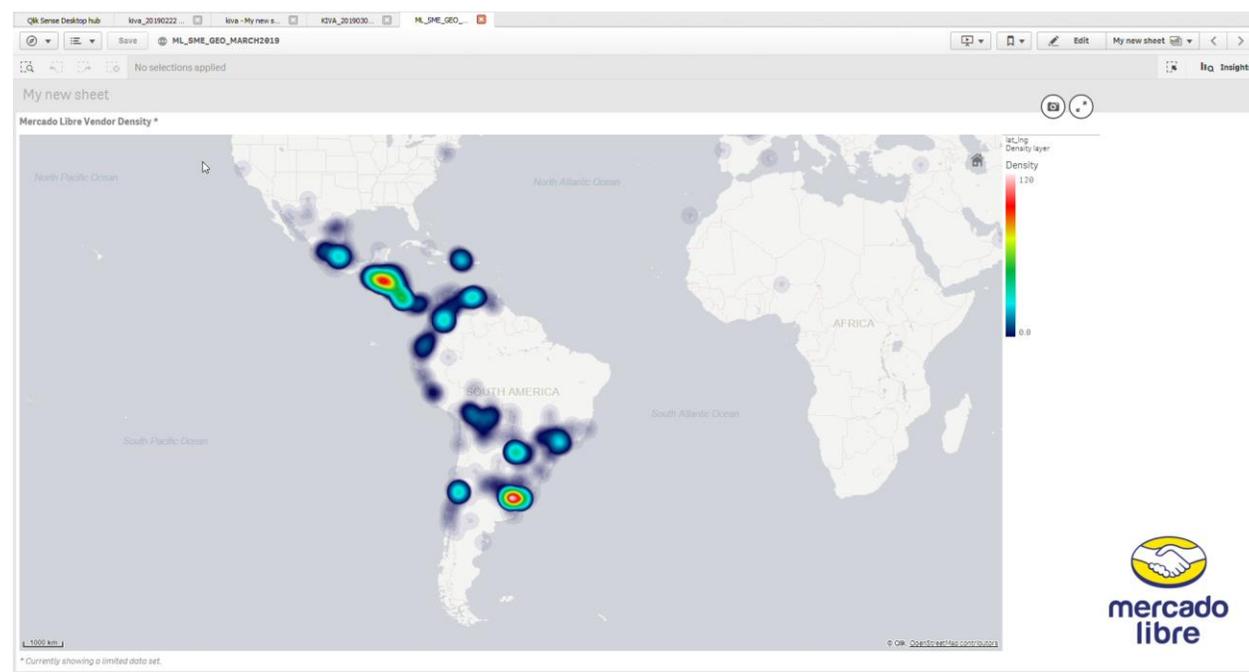
25 geolocations + 14 years + 5 gender mixes + 15 sectors =
59 variables

=> combinatorial choices: $\binom{n}{k} = \frac{n!}{k!(n-k)!}$

"half quintillion" =
"medio trillón" o "quinientos mil billones"
=> mil millones de gráficos por habitante de ALC



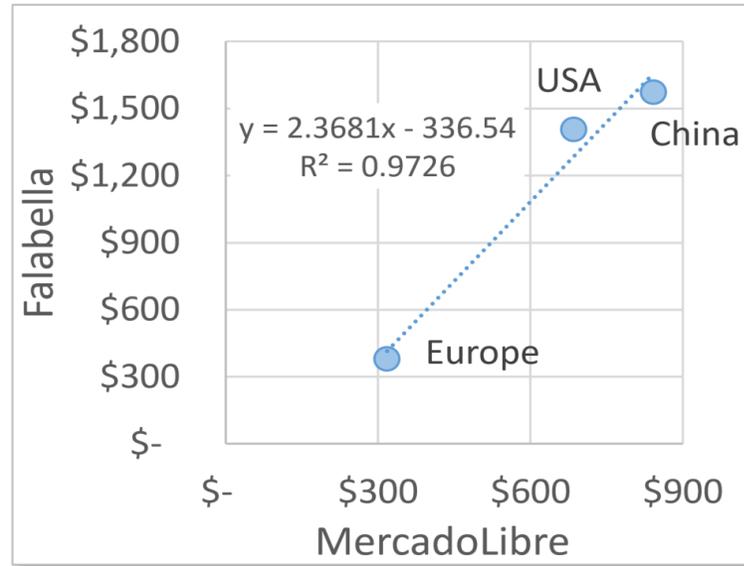
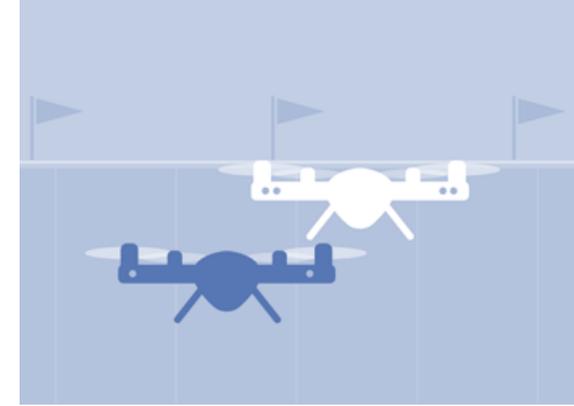
KIVA
Loans that change lives



- 1) Definition of indicators
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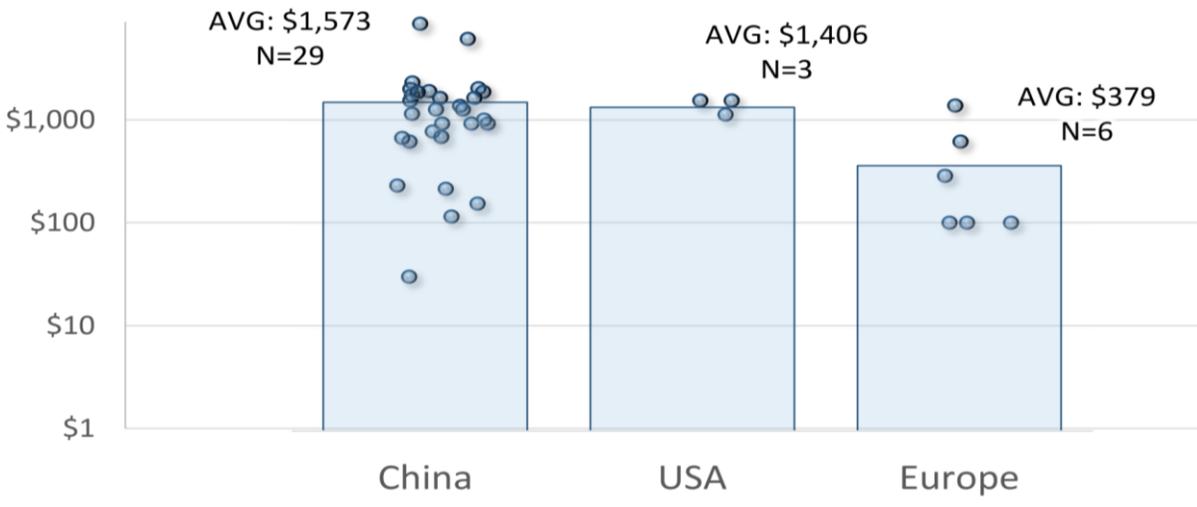
How much does a drone cost?

in Argentina, Chile, Colombia, Peru, county of origin

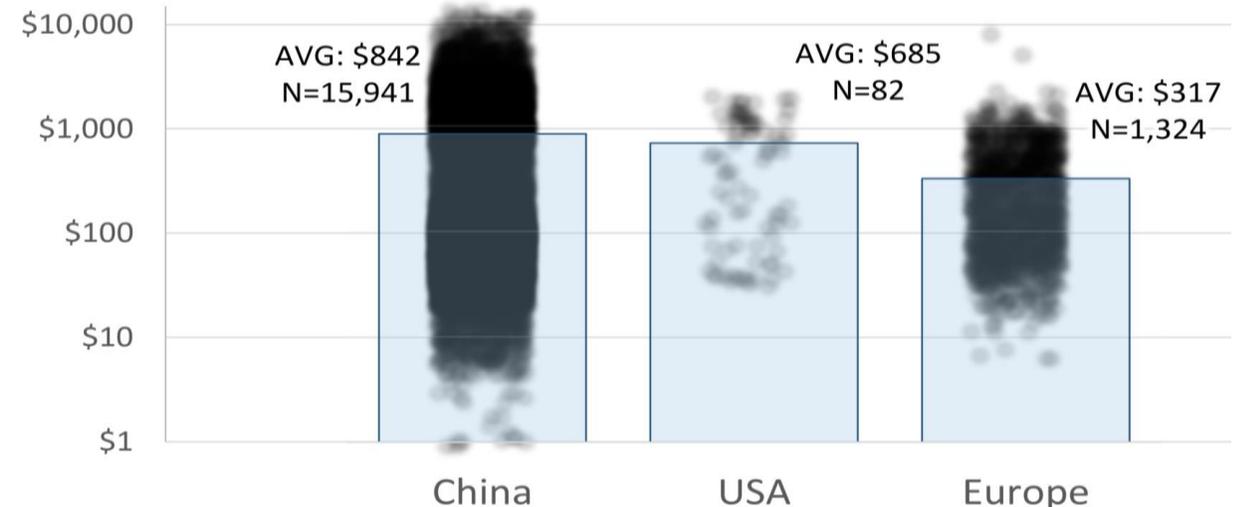


mercado
libre

falabella.



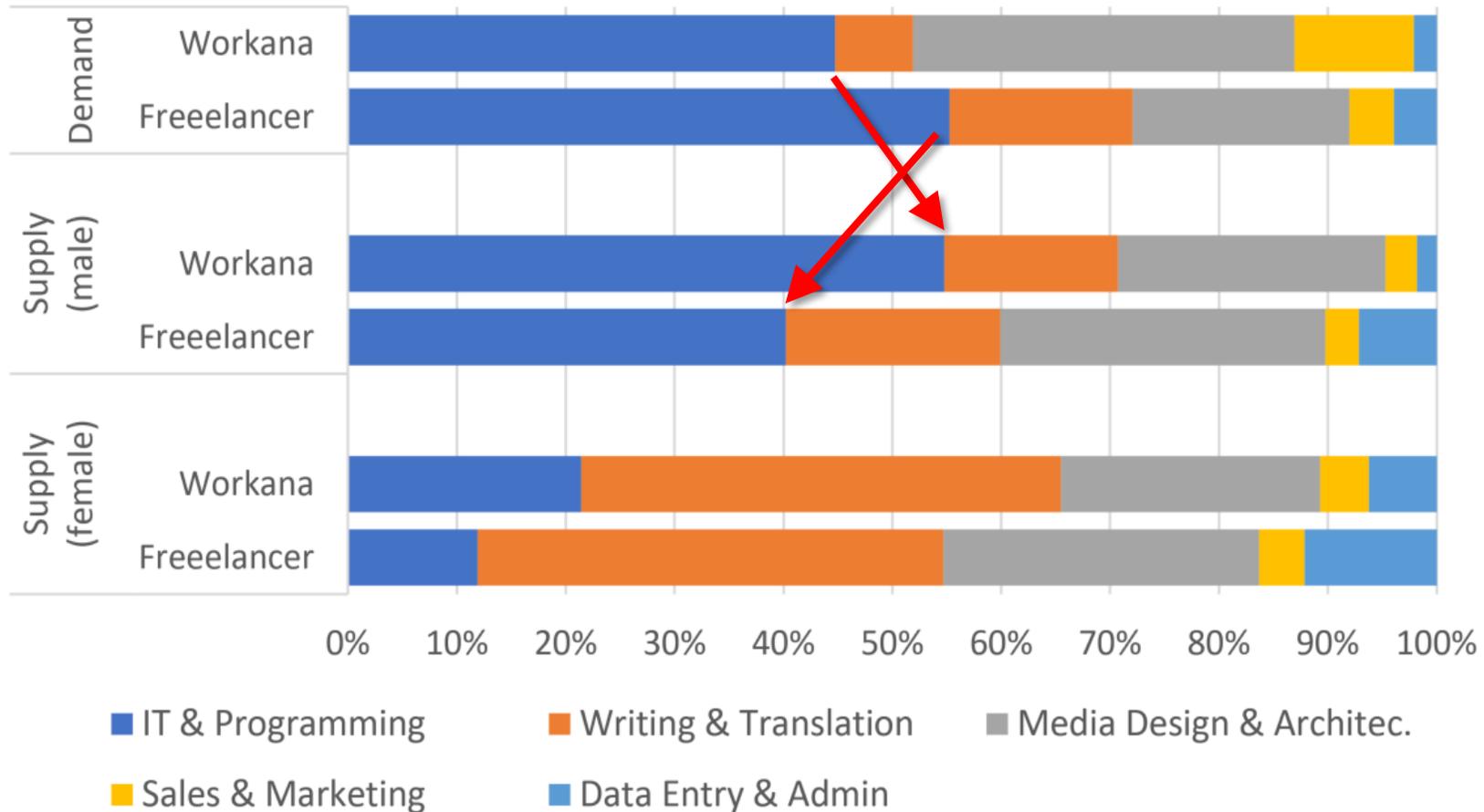
N = 38



N = 17,347

- 1) Definition of indicators
- 2) Source selection
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- 6) Substantive domain knowledge
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Supply versus Demand of Labor Market skills



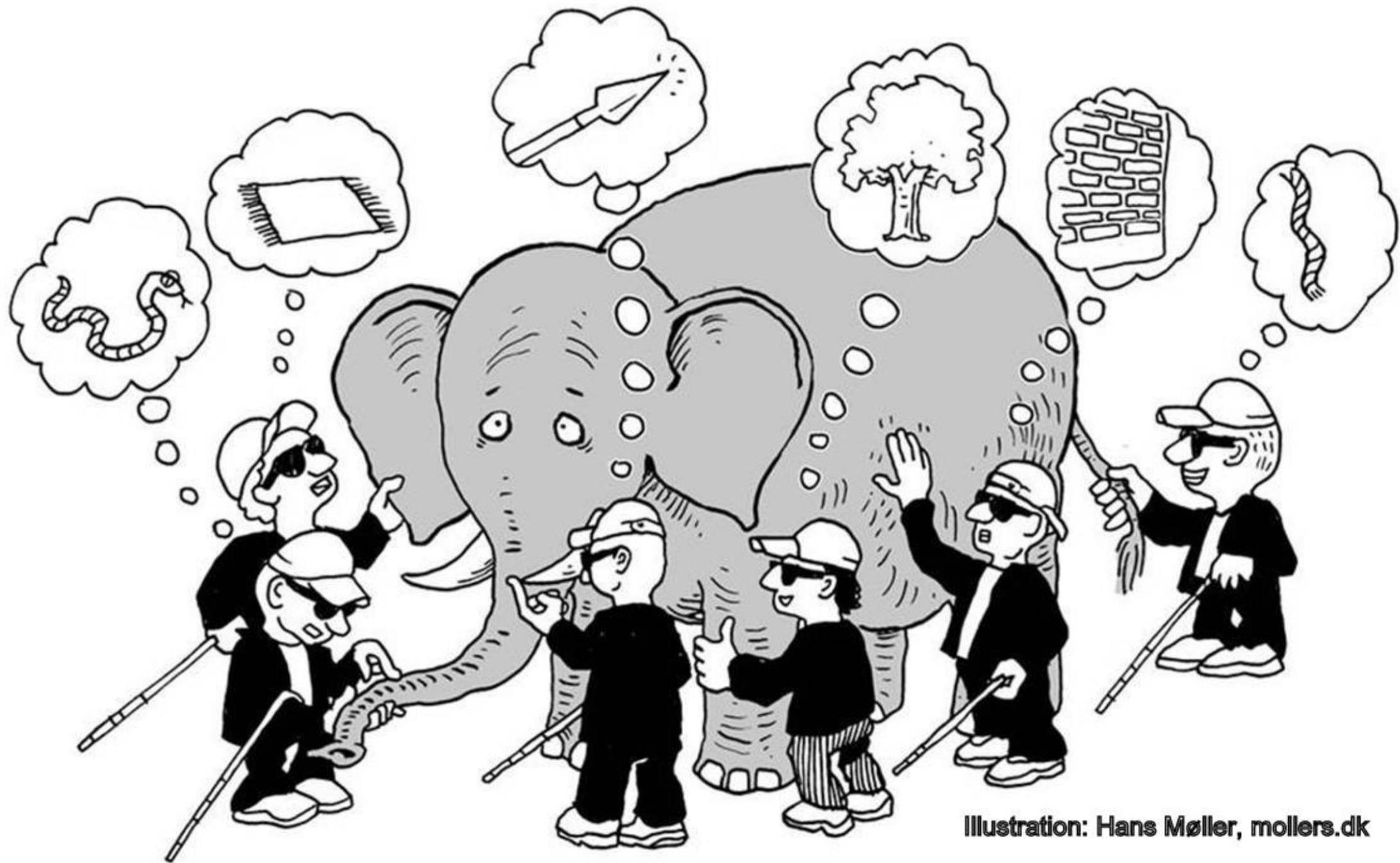


Illustration: Hans Møller, mollers.dk

- 1) Definition of indicators
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Harmonization



Websites, IT & Software (21863)

- ▶ .NET (194) ▶ 🏆 (3)
- ▶ Adobe Air (1) ▶ 🏆 (1)
- ▶ Adobe Muse (0)
- ▶ Alibaba (2)
- ▶ Android Wear SDK (4)
- ▶ Apache Maven (0)
- ▶ Apple Safari (2)
- ▶ ARCore (1)
- ▶ Artificial Intelligence (30)
- ▶ ASP.NET (91) ▶ 🏆 (1)
- ▶ Augmented Reality (15)
- ▶ backbone.js (0)
- ▶ BeautifulSoup (2)
- ▶ Bitcoin (32) ▶ 🏆 (4)
- ▶ Bluetooth Low Energy (BLE) (5)
- ▶ BSD (1)
- ▶ C# Programming (331) ▶ 🏆 (1)
- ▶ Camtasia (1)
- ▶ Chef Configuration Management (3)
- ▶ Cisco (25) ▶ 🏆 (1)
- ▶ CMS (13)
- ▶ Codeigniter (72)
- ▶ Computer Graphics (5) ▶ 🏆 (2)
- ▶ Corel Draw (13) ▶ 🏆 (4)
- ▶ CubeCart (0)
- ▶ cxf (0)
- ▶ Database Development (27)
- ▶ 4D (0)
- ▶ Adobe Captivate (2)
- ▶ Adobe Premiere Pro (10)
- ▶ Amazon Web Services (115) ▶ 🏆 (1)
- ▶ Angular.js (200) ▶ 🏆 (2)
- ▶ Apache Solr (0)
- ▶ Apple UIKit (0)
- ▶ Argus Monitoring Software (0)
- ▶ AS400 & iSeries (0)
- ▶ Assembly (13)
- ▶ AutoHotkey (2)
- ▶ Backend Development (11)
- ▶ Big Data Sales (7)
- ▶ Biztalk (0)
- ▶ BMC Remedy (0)
- ▶ Business Catalyst (5)
- ▶ C++ Programming (238) ▶ 🏆 (7)
- ▶ CasperJS (0)
- ▶ Chordiant (0)
- ▶ CLIPS (0)
- ▶ COBOL (0)
- ▶ Coding (51) ▶ 🏆 (1)
- ▶ Computer Science (19)
- ▶ CRE Loaded (0)
- ▶ CUDA (2)
- ▶ Dart (2)
- ▶ Database Programming (90)
- ▶ Active Directory (8)
- ▶ Adobe Freehand (3) ▶ 🏆 (2)
- ▶ Agile Development (5)
- ▶ AMQP (0)
- ▶ Apache (32)
- ▶ API (69)
- ▶ Apple Xcode (2)
- ▶ ARKit (1)
- ▶ Asana (1)
- ▶ Asterisk PBX (38)
- ▶ Aws Lambda (4)
- ▶ Balsamiq (0)
- ▶ BigCommerce (5)
- ▶ Blockchain (54) ▶ 🏆 (1)
- ▶ Boonex Dolphin (0)
- ▶ Business Intelligence (19)
- ▶ CakePHP (16)
- ▶ Cassandra (3)
- ▶ Chrome OS (3)
- ▶ Clojure (2)
- ▶ Cocoa (10)
- ▶ CoffeeScript (0)
- ▶ Computer Security (40)
- ▶ CS-Cart (2)
- ▶ cURL (2)
- ▶ Data Warehousing (4)
- ▶ DataLife Engine (1)
- ▶ ADO.NET (0)
- ▶ Adobe Illustrator (41) ▶ 🏆 (15)
- ▶ AJAX (37) ▶ 🏆 (2)
- ▶ Analytics (11)
- ▶ Apache Ant (0)
- ▶ App Developer (34) ▶ 🏆 (2)
- ▶ Applescript (0)
- ▶ Articulate Storyline (0)
- ▶ ASP (21) ▶ 🏆 (2)
- ▶ Atlassian Confluence (1)
- ▶ Azure (14)
- ▶ Bash Scripting (5)
- ▶ Binary Analysis (1)
- ▶ Blog Install (204)
- ▶ Bower (2) ▶ 🏆 (3)
- ▶ C Programming (264) ▶ 🏆 (5)
- ▶ Call Control XML (0)
- ▶ Charts (4)
- ▶ Cinematography (1)
- ▶ Cloud Computing (26)
- ▶ Cocoa Touch (0)
- ▶ Cold Fusion (3)
- ▶ Copyright (5) ▶ 🏆 (1)
- ▶ CSS3 (40) ▶ 🏆 (2)
- ▶ CV Library (5)
- ▶ Database Administration (59)
- ▶ Databbles (1)

WORKANA

JOB

FREELANCERS

STO

PROJECT CATEGORY

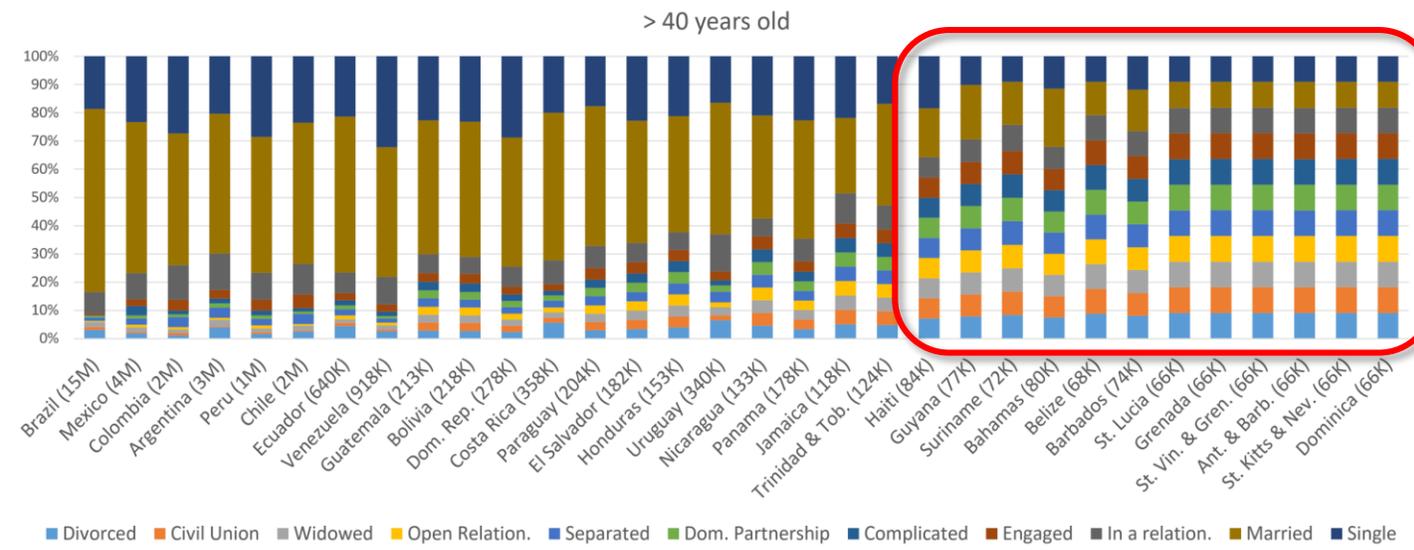
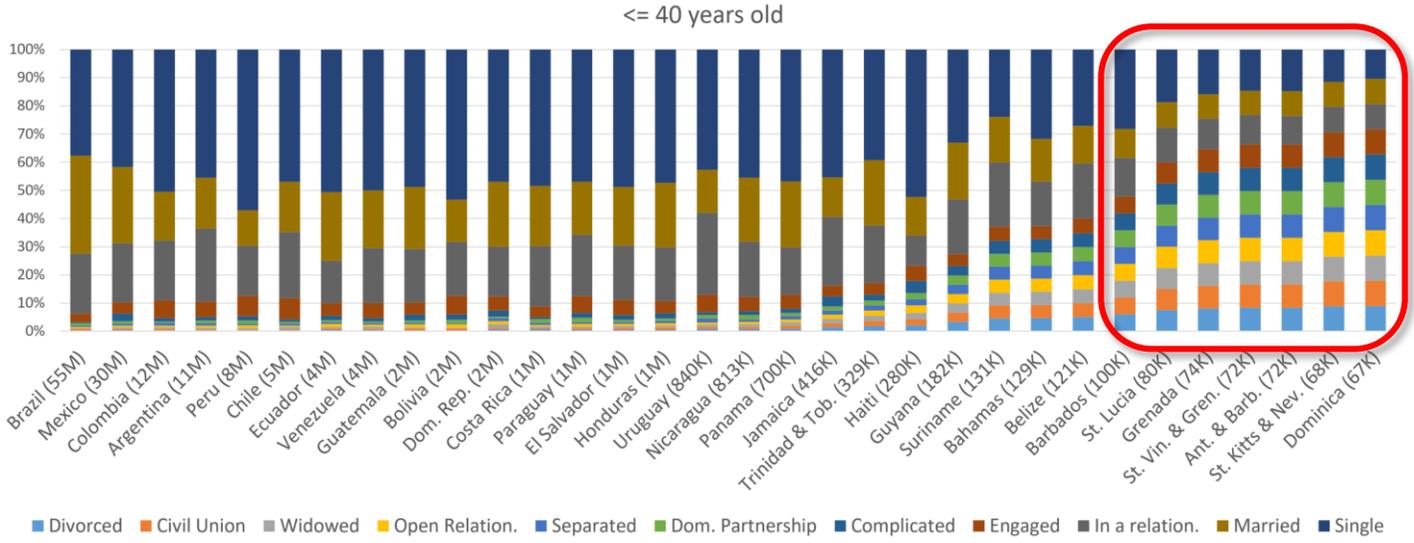
- All categories
- IT & Programming
 - Web development
 - Web design
 - E-commerce
 - Wordpress
 - Apps programming. Android, iOS and others
 - Desktop apps
 - Other
- Design & Multimedia
 - Logo design
 - Web design
 - Banners
 - Illustrations
 - Make or edit a video
 - Infographics
 - Images for social networks
 - Mobile app design
 - 3D Models
 - Corporate image
 - Landing Page
 - Fashion Design
 - Other

Harmonization

			
IT & Programming	Websites, IT & Software Mobile Phones & Computing	IT & Programming	Tecnología
Writing & Translation	Translation & Languages Writing & Content	Writing & Translation	Comunicación
Design Media, and Architecture	Design Media, & Architecture	Design & Multimedia	Diseño
Data Entry and Admin	Data Entry & Admin	Admin Support	Administración, Secretaria
Engineering & Manufacturing	Engineering & Science Product Sourcing & Manuf	Engineering & Manufacturing	Construcción, Ingeniería, Minería, Producción, Salud
Sales and Marketing	Sales & Marketing	Sales & Marketing	Marketing, Ventas, Call center
Freight, Shipping & Transportation	Freight, Shipping & Transportation		Logística
Business, Accounting, Human Resources, & Legal	Business, Accounting, Human Resources, & Legal	Legal, Finance & Management	Finanzas, Gerencia, Legales, Recursos Humanos, Educación, Asistente Contable, Analista Comercial, Contador, Analista de Admin y RRHH
Local Jobs & Services	Local Jobs & Services		Gastronomía, Oficios, Conductor, Seguridad, Cajero, Armador de Muebles, Auxiliar de Aseo, Operarios Producción, Pulidor, Maestro Cocina, Soldador, Salvavidas, Mecánico
Other	Other		Seguros

- 1) Definition of indicators
- 2) Source selection
- 3) Representativeness & Generalizability
- 4) Harmonization
- 5) **Data quality**
- 6) Substantive domain knowledge
- 7) Automated classifier

What is the state of love relationships?



Facebook Page **Martin Hilbert**

Potential Reach: 2,600 people

Estimated Daily Results
Reach: 620 - 1,300

Audience
Define who you want to see your ads. Learn more.

Create New Use a Saved Audience

Custom Audiences
Target Ads to People Who Know Your Business
You can create a Custom Audience to show ads to your contacts, website visitors or app users. Create a Custom Audience.

Locations
Can't find the location for the following page address: Kerr Hall, 95616 Davis
People who live in this location

Chile
Chile

Include Type to add more locations Browse

Age 21 - 30
Gender All Men **Women**
Languages Enter a language...

Detailed Targeting INCLUDE people who match at least ONE of the following

Demographics > Work > Industries
Computation and Mathematics

Add demographics, interests or behaviors | Suggestions Browse

Exclude People or Narrow Audience

Your audience selection is fairly broad.

The accuracy of estimates is based on factors like past campaign data, the budget you entered and market data. Numbers are provided to give you an idea of performance for your budget, but are only estimates and don't guarantee results.

Were these estimates helpful?

facebook

Data quality

FREELANCERS JOBS HOW IT WORKS REGISTER SIGN IN CREATE A PROJECT

"Juan..."
Haga las cosas, pero hágalas bien.

★ ★ ★ ★ ★ 5.00 / 5 Chile

Hourly rate: **USD 5,000.00**

Writing & Translation

Skills (Maximum: 5) **CREATIVE & TALENT**

HIRE

Ranking
Workana: 14,016 of 2,097,842
Writing & Translation: 3,117
Ranked in Chile: 41 ?
How can I improve my ranking?

Completed projects: 1
Profile level: Bronze
Ratings from clients 1

Last login: 22 days ago
Joined: 2 years ago

5,000 Chilean Peso equals

7.35 United States Dollar

Mar 29, 9:33 PM UTC · Disclaimer

5000	Chilean Peso ▾
7.35	United States Dolla ▾

FREELANCERS JOBS HOW IT WORKS REGISTER SIGN IN CREATE A PROJECT

"Juanito..."
no hay problemas, solo soluciones que encontrar

★ ★ ★ ★ ★ 4.38 / 5 Chile

Hourly rate: **USD 18,000.00**

Design & Multimedia 🎧 🕒

[View certifications](#)

Skills (Maximum: 13) **PHP JQUERY HTML5 CSS3 ADOBE FLASH JSON ACTIONSCRIPT JAVASCRIPT TRADEMARK**

HIRE

Ranking
Workana: 21,171 of 2,097,842
Design & Multimedia: 5,376
Ranked in Chile: 80 ?
How can I improve my ranking?

Completed projects: 24
Ongoing projects: 2
Profile level: Hero
Certifications: 2
Ratings from clients 25
Breaches (1)

Last login: Last year
Joined: 5 years ago

Finance Settings

My Currency

USD ▾
USD
AUD
CAD
EUR
GBP
HKD
INR
NZD
SGD

18,000 Chilean Peso equals

26.45 United States Dollar

Mar 29, 9:33 PM UTC · Disclaimer

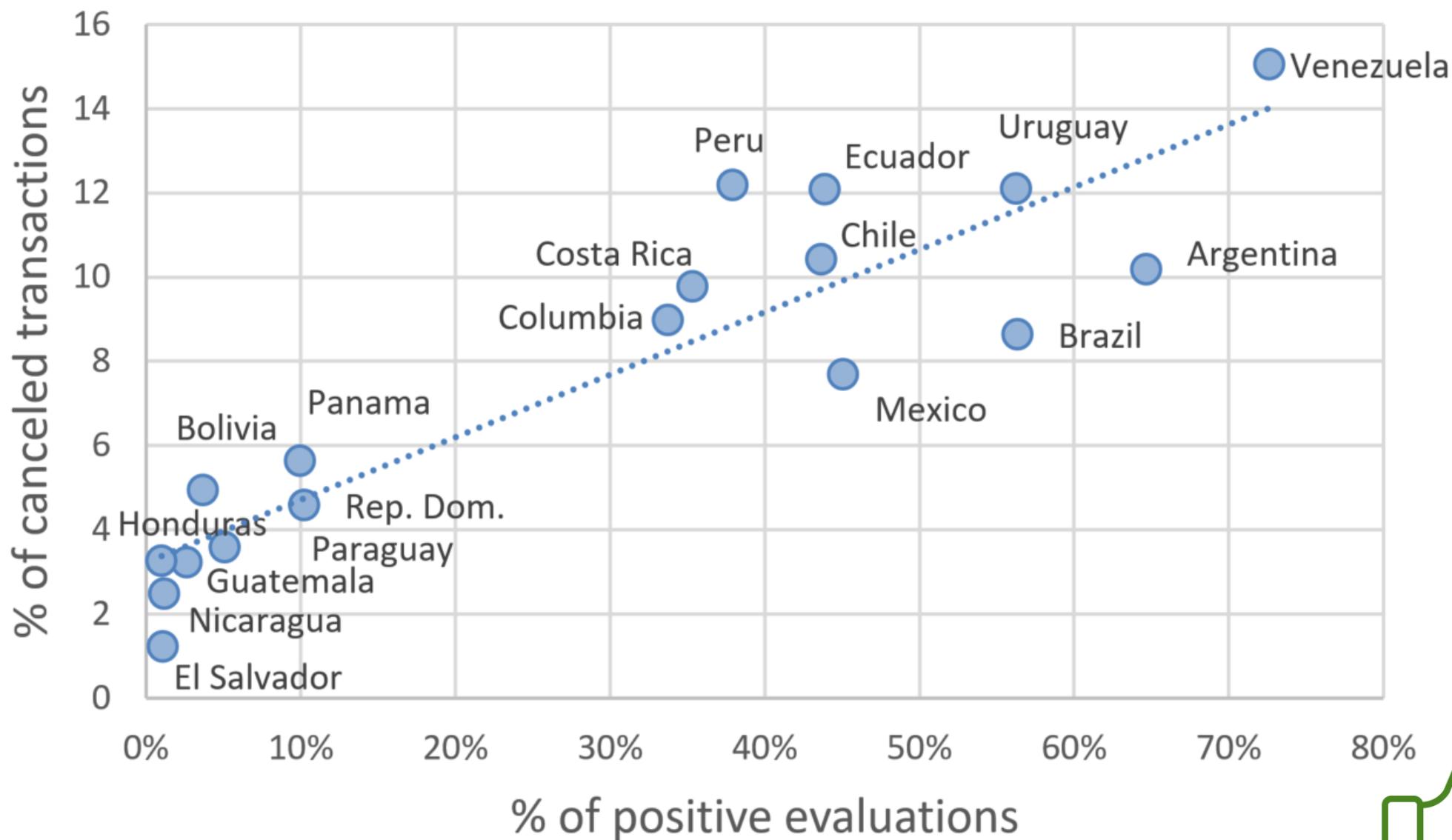
18000	Chilean Peso ▾
26.45	United States Dolla ▾

- 1) Definition of indicators
- 2) Source selection
- 3) Representativeness & Generalizability
- 4) Harmonization
- 5) Data quality
- 6) **Substantive domain knowledge**
- 7) Automated classifier



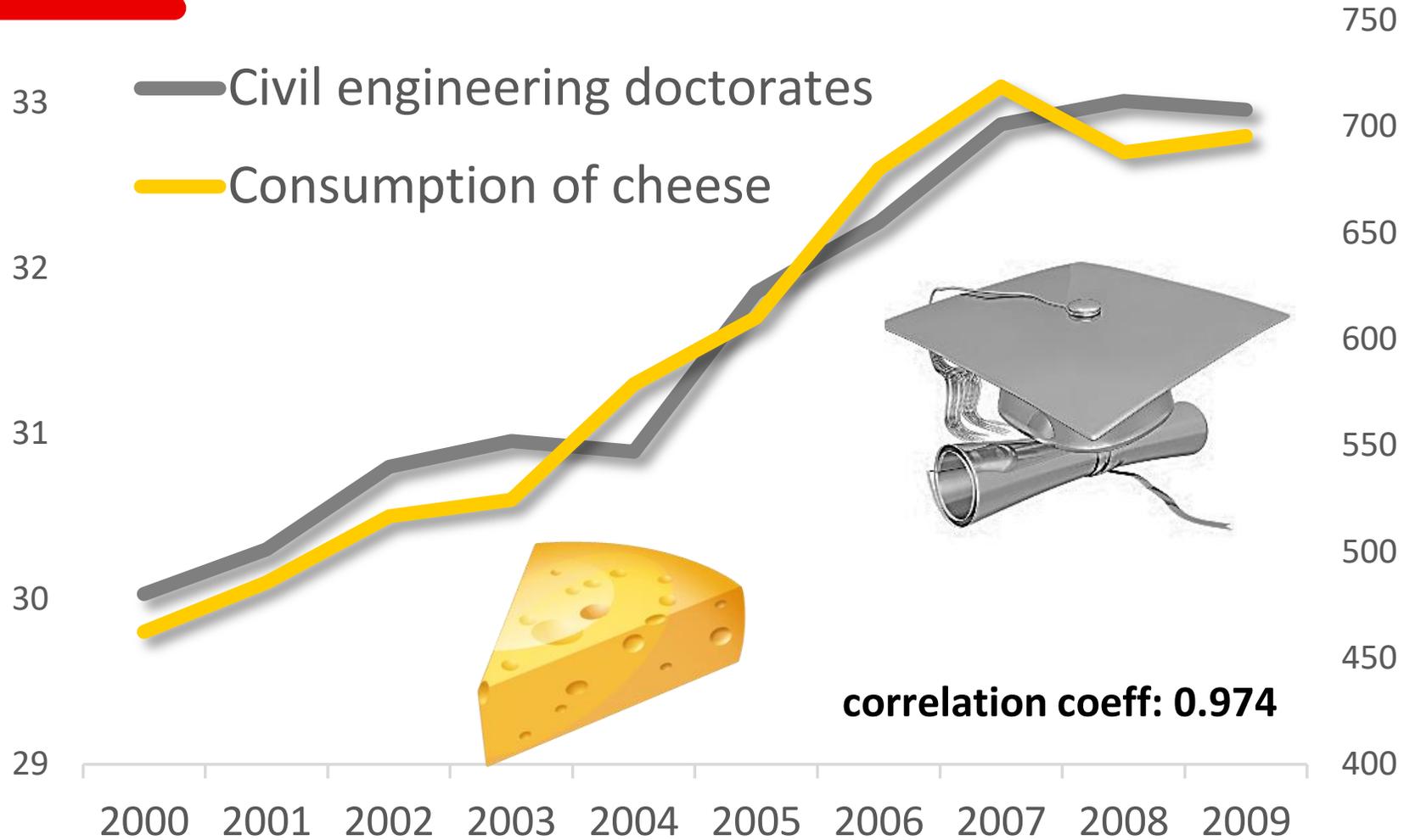
mercado
libre

CANCELADO



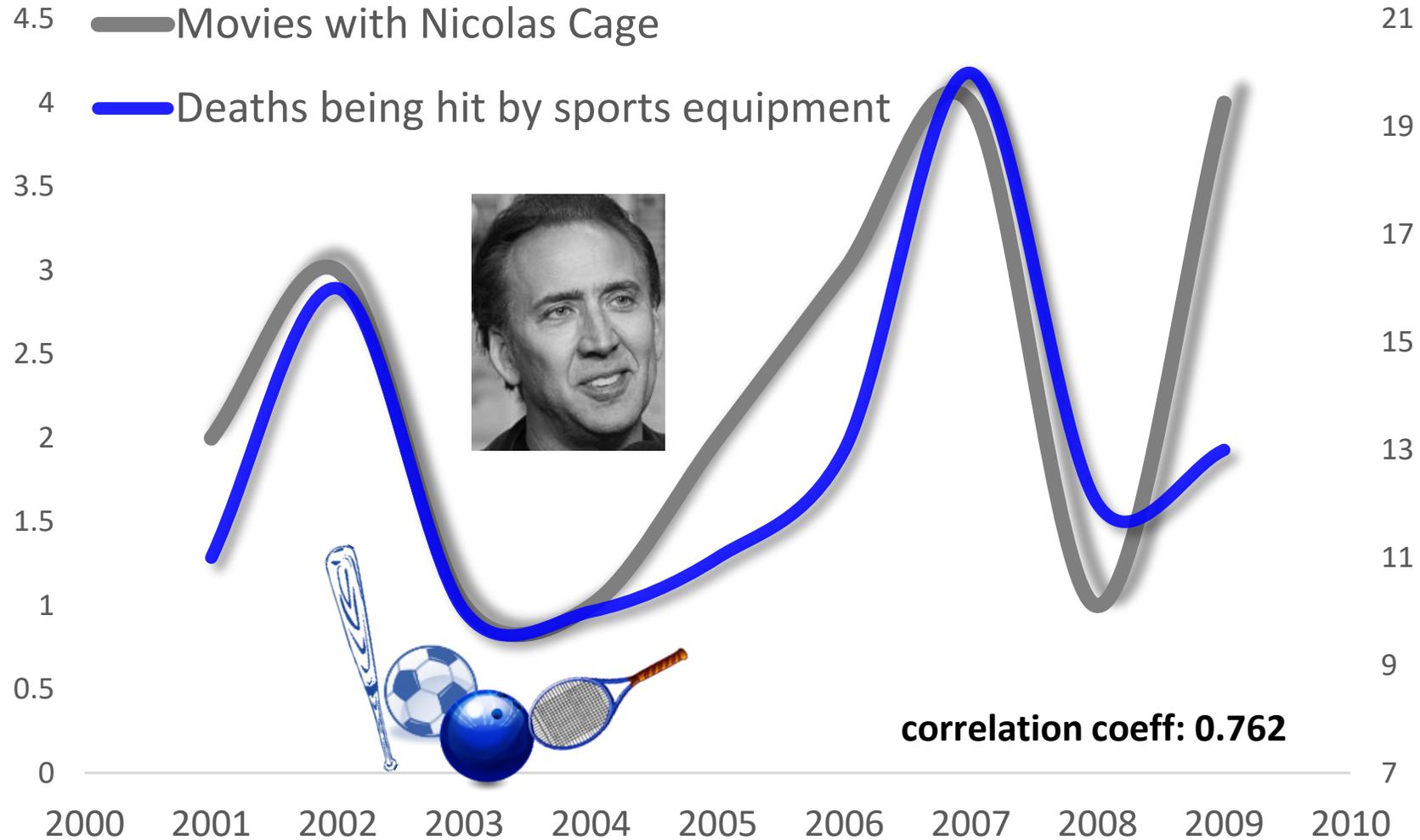


Correlation \neq Causation





Correlation \neq Causation

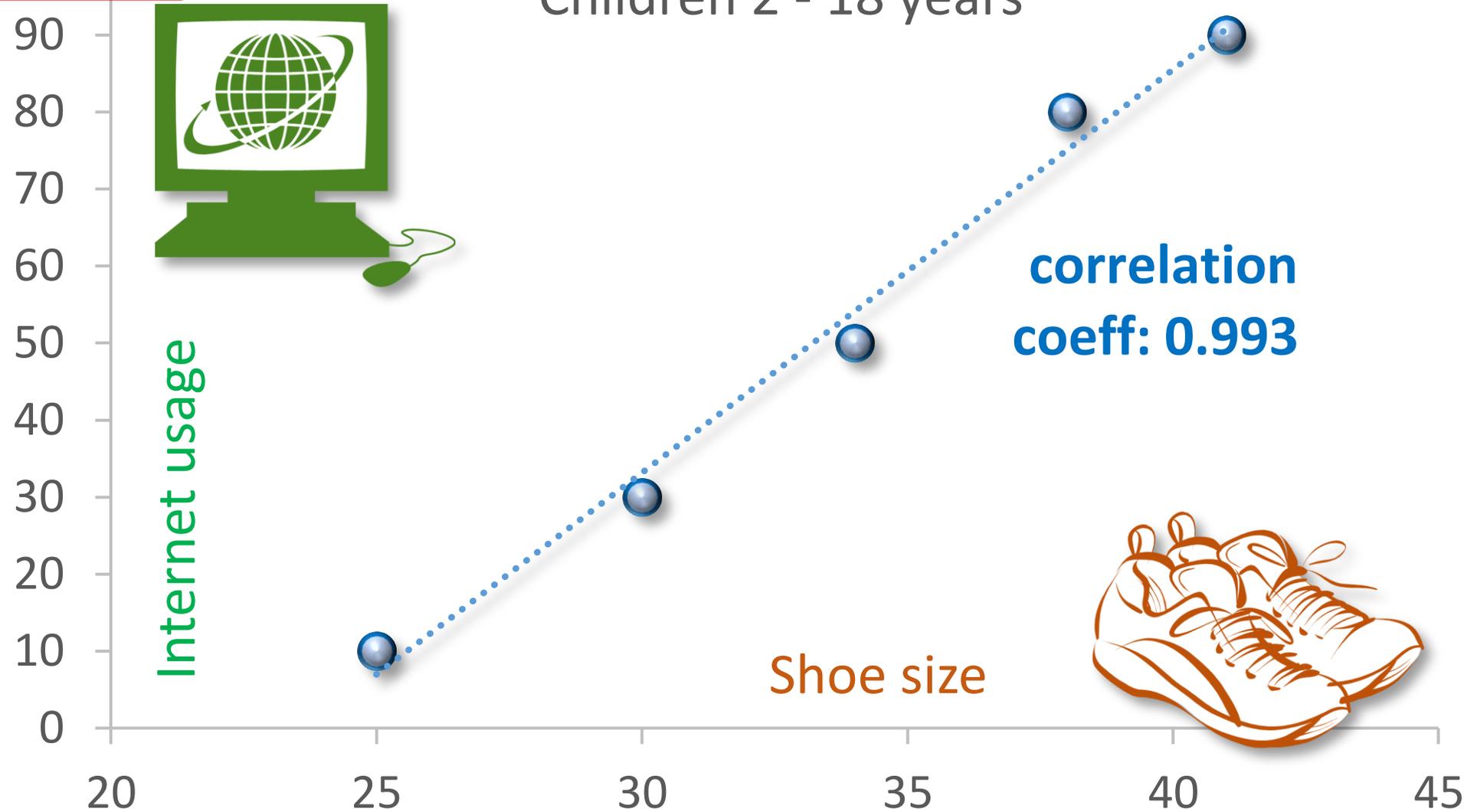


Correlation \neq Causation

Confounding Variables
&
their spurious
correlations

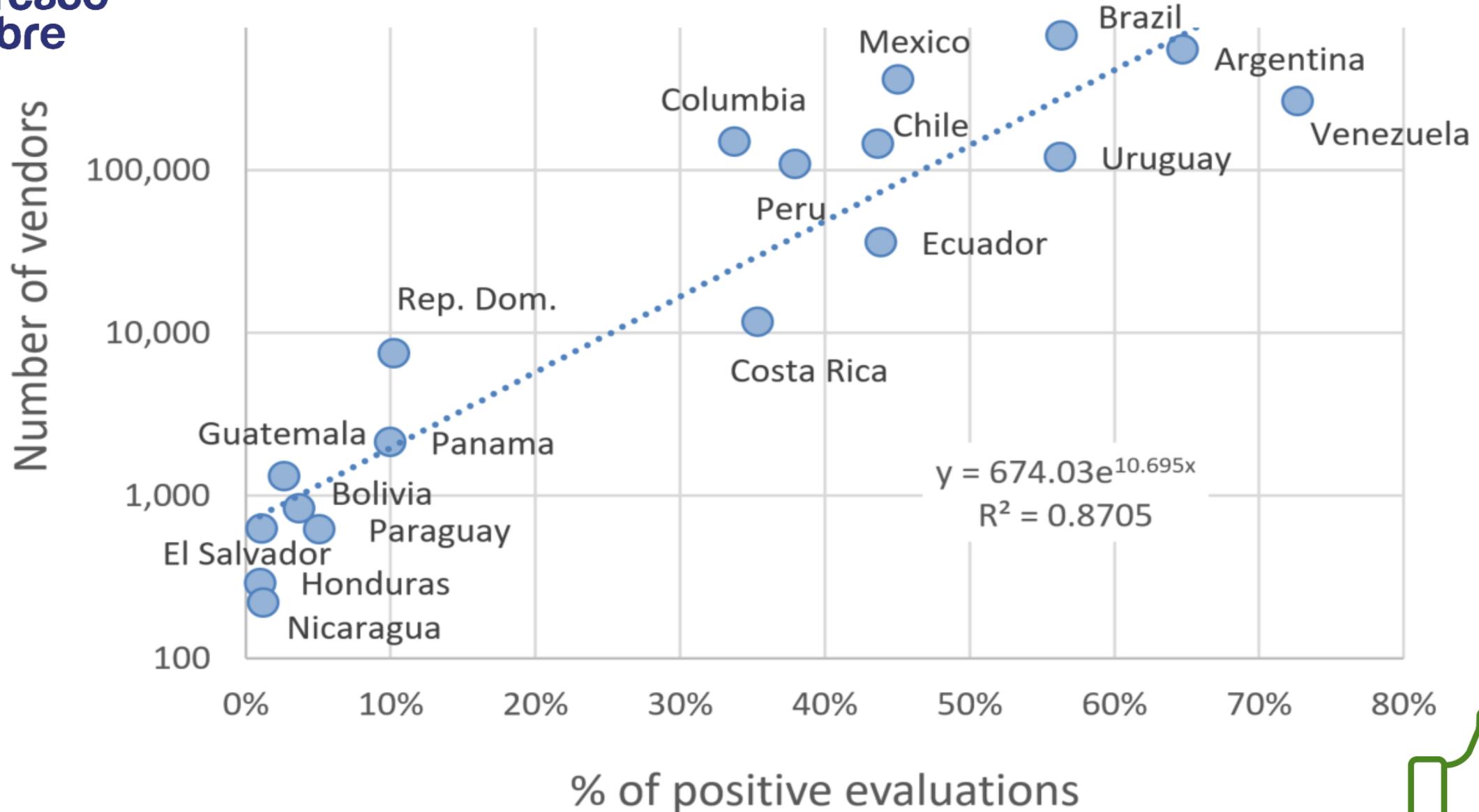


Children 2 - 18 years





mercado
libre

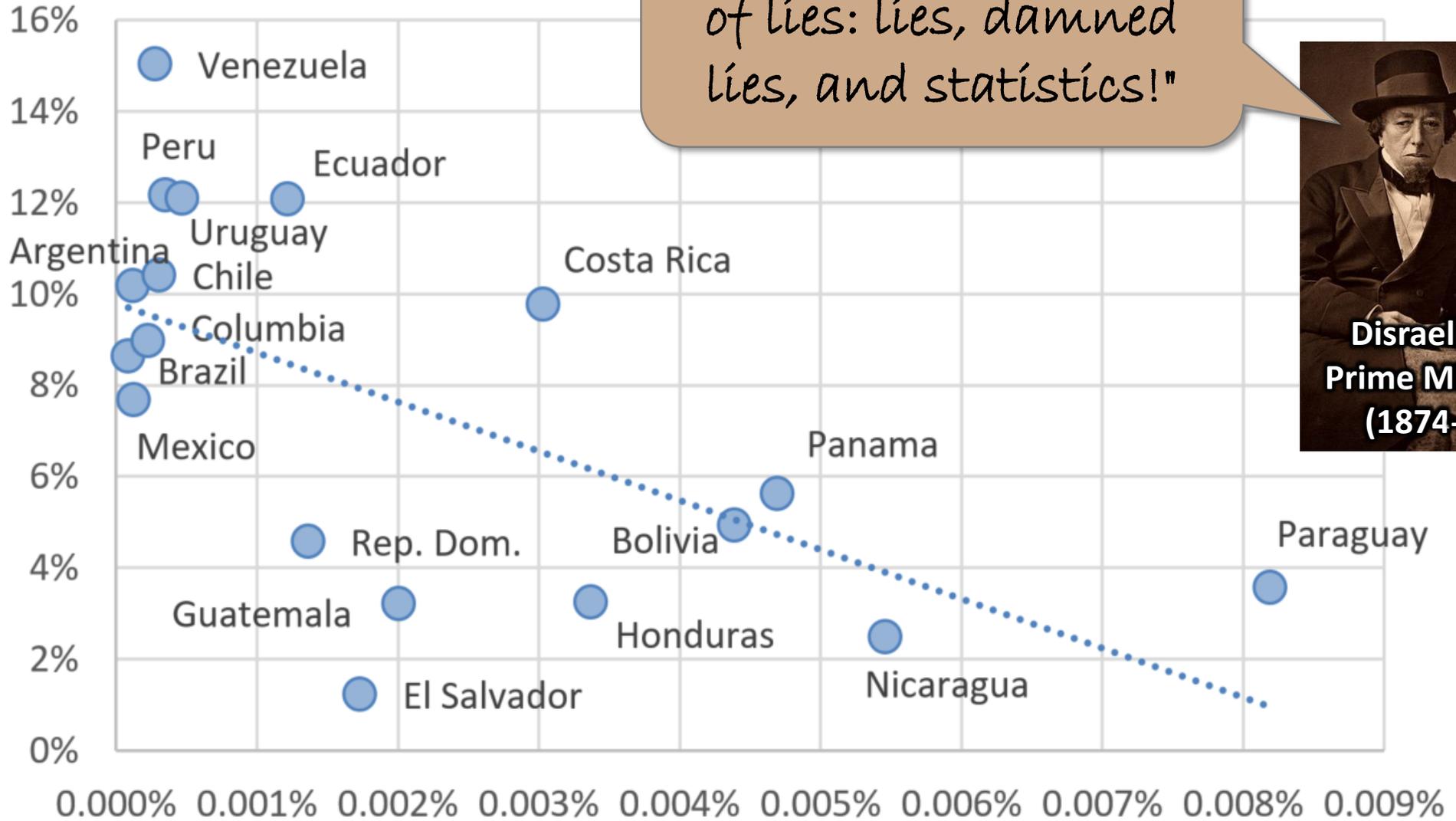




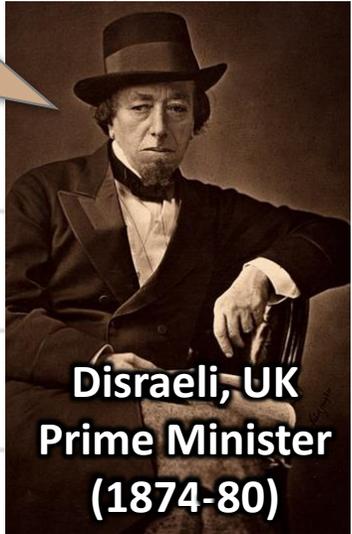
mercado
libre

CANCELADO

% of canceled transactions



"There are three kinds of lies: lies, damned lies, and statistics!"



Disraeli, UK
Prime Minister
(1874-80)

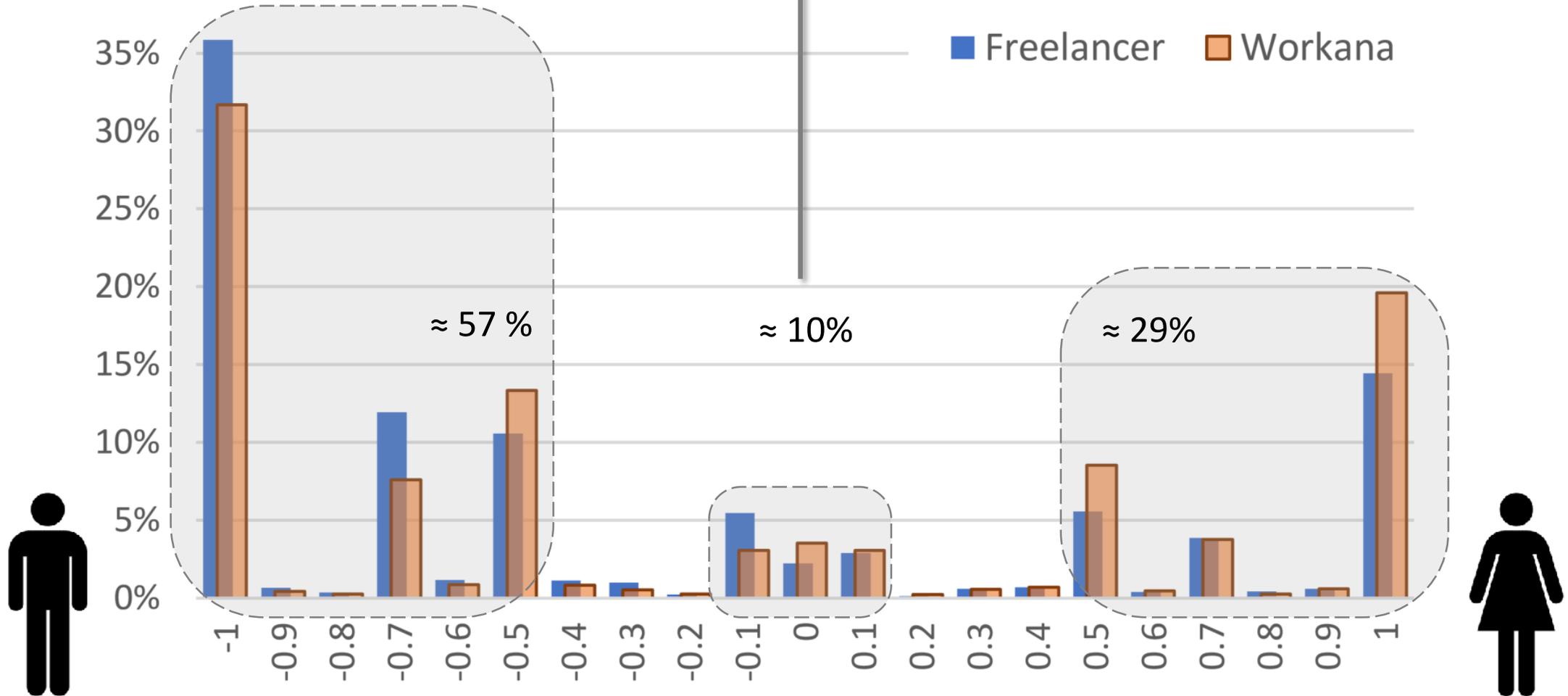
% of positive evaluations / vendor

- 1) Definition of indicators
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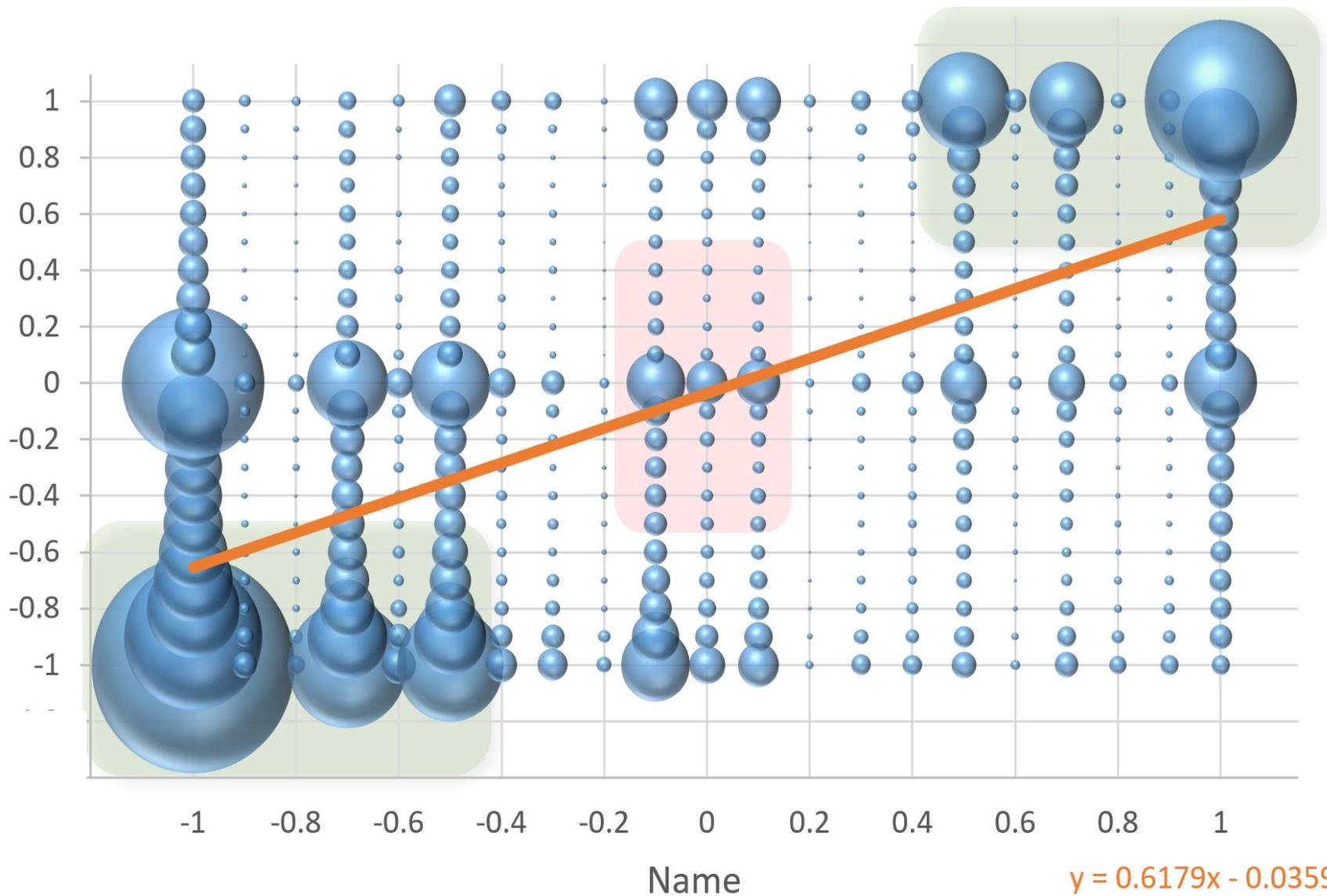
From text to numbers

'Romerd', 'Rodrig.', or 'Jakelinne' => (+)

'Estauri', 'Zaimari', 'Yuri', 'Luan', 'Maxi', 'Criz', 'PatriV=c', 'Asistente' => (?)



Image



704038



709265



742539



978417



978704



1040261



790633



817125



848528



1102867



1109494



1131710

From text to numbers

motorola

Motorola Tienda oficial

Reputación
2,575 ventas en los últimos 4 meses

MercadoLíder Platinum
¡Es uno de los mejores del sitio!

Ubicación
Santiago, RM (Metropolitana).

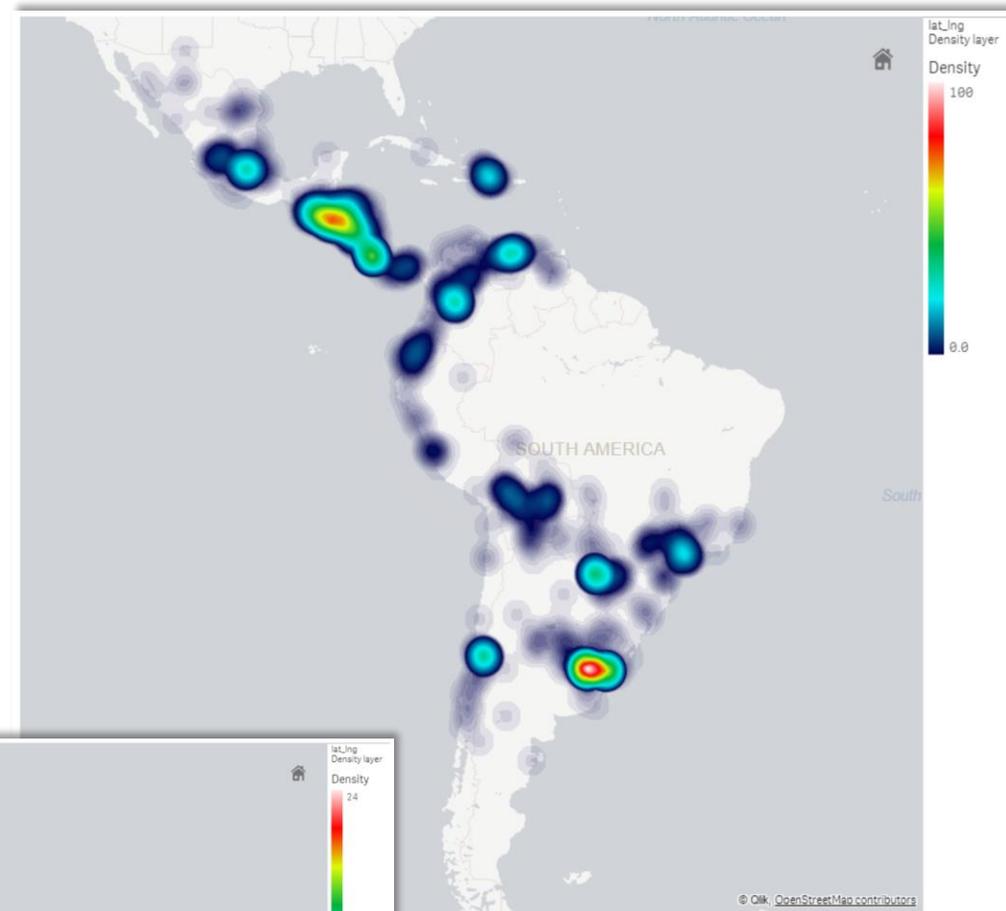
2 años vendiendo en Mercado Libre

Opiniones de sus compradores

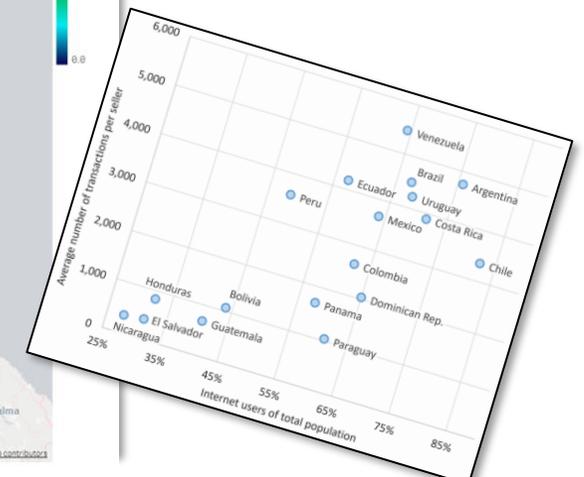
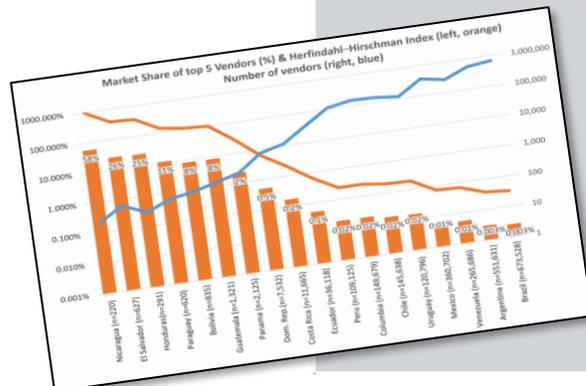
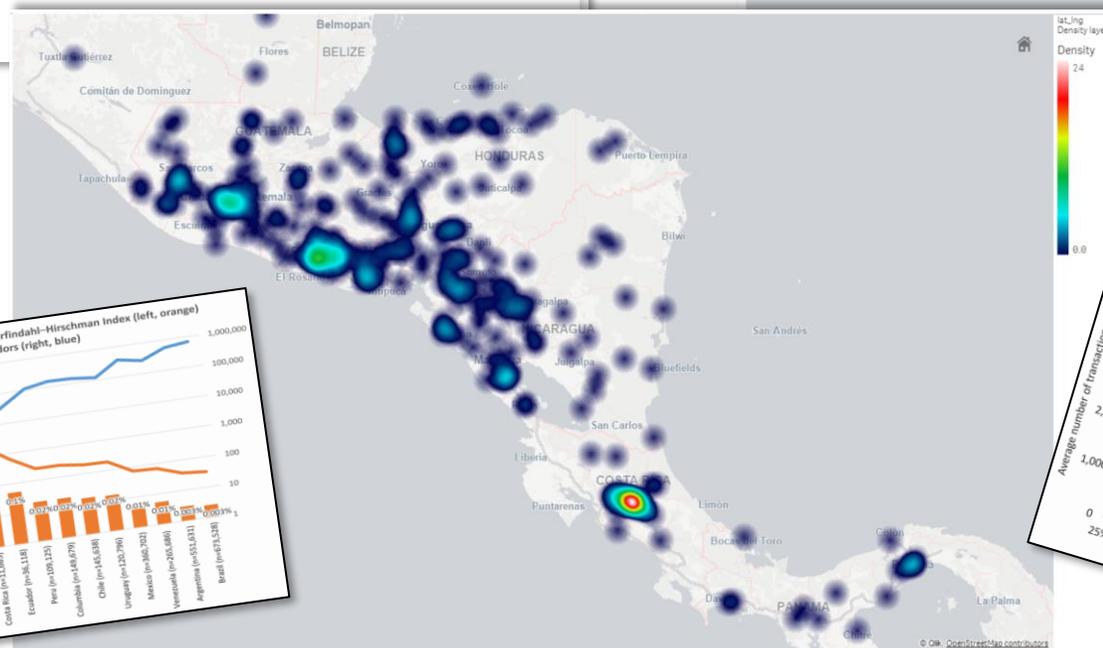
551

- Buena (532)
- Regular (10)
- Mala (9)

mercado libre

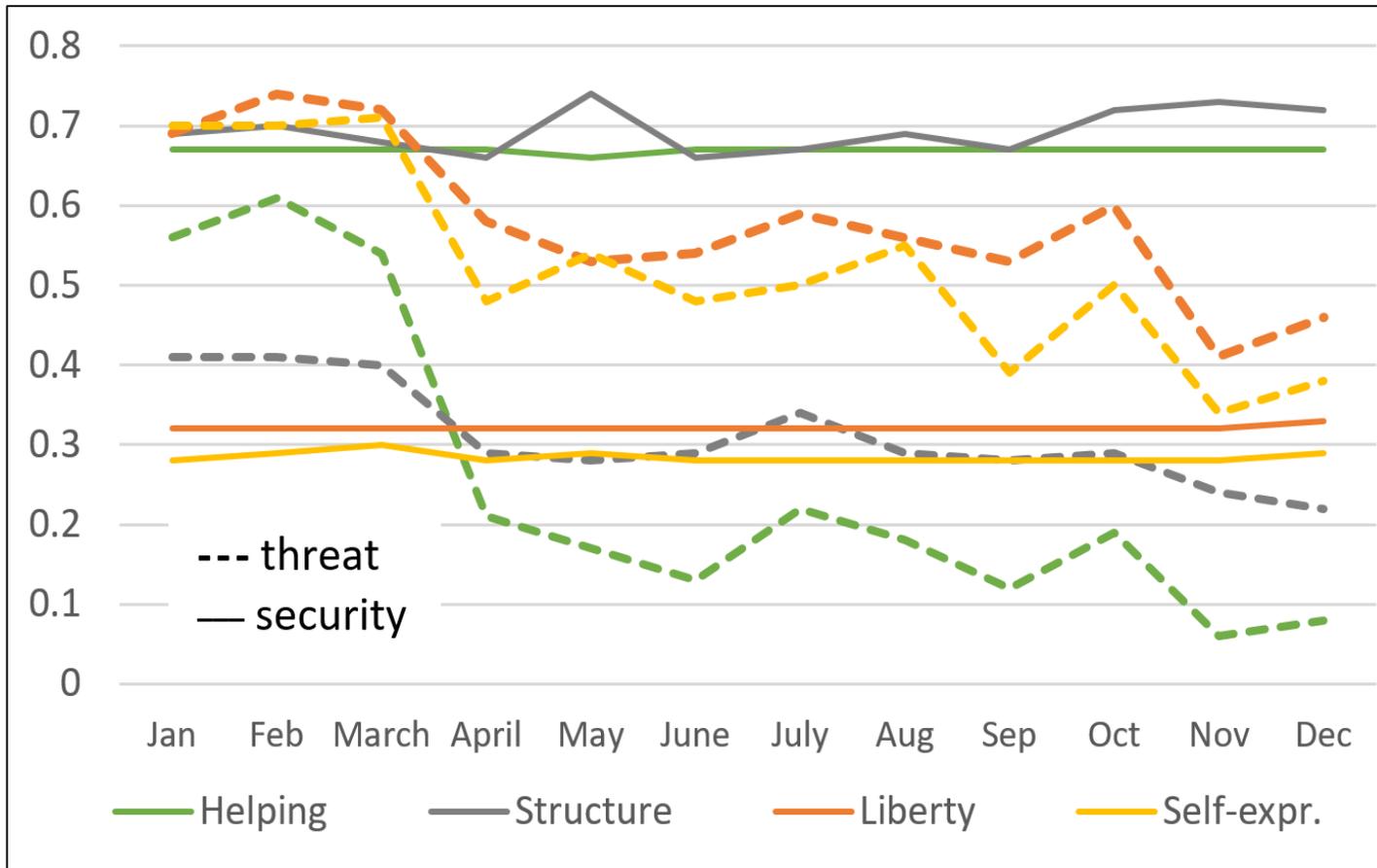


Google Maps Platform



From text to numbers

Semantic Analysis with IBM Watson Personality Insight on Twitter hashtags related to cyberthreats and cybersecurity



Helping (preserving and enhancing the welfare of those with frequent contacts); Structure (need for organization, planning, and things that have purpose); Liberty (need to escape, a desire for new experiences, new things); Self-expression (desire to discover and assert one's identity).



Personality Insights

Gain insight into how and why people think, act, and feel the way they do. This service applies linguistic analytics and personality theory to infer attributes from a person's unstructured text.

*This system is for demonstration purposes only and is not intended to process Personal Data. No Personal Data is to be entered into this system as it may not have the necessary controls in place to meet the requirements of the General Data Protection Regulation (EU) 2016/679.

Resources:

- [API Reference](#)
- [Documentation](#)
- [Fork on Github](#)
- [Start for free in IBM Cloud](#)

Output

The scores you see are all percentiles. They are comparing one person to a broader population. For example, a 90% on Extraversion does not mean that the person is 90% extroverted. It means that for that single trait, the person is more extroverted than 90% of the people in the population.

Our sample population consists of Twitter users who tweet in their respective languages, and whose personalities we calculated using our model.

Personality Portrait

35039 words analyzed: **Very Strong Analysis**

Summary

and active.

you feel what others feel and are compassionate appreciative of art; you enjoy beauty and seek es. And you are driven: you have high goals for l to achieve them.

n by a desire for well-being.

to guide a large part of what you do: you highly i belong to and follow their guidance. You are with taking pleasure in life: you prefer activities than just personal enjoyment.

[How did we get this?](#)

You are likely to _____

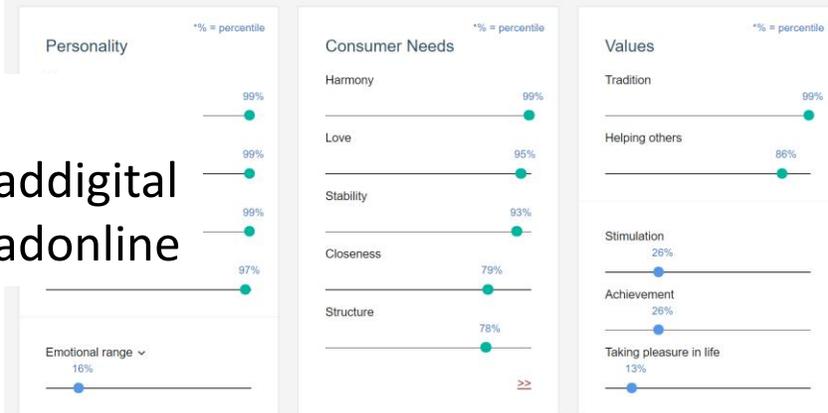
- be influenced by family when making product purchases
- volunteer for social causes
- read entertainment magazines

You are unlikely to _____

- have a gym membership
- prefer style when buying clothes
- eat out frequently

Threat:
 #ciberdelitos
 #ciberataques
 #ciberamenazas

Security:
 #seguridaddigital
 #seguridadonline



- 1) Static graphics no longer correspond**
- 2) No "THE" reality, and no "THE" source**
- 3) Data only represent what it represents**
- 4) Harmonization remains key**
- 5) Interpretive and critical reading required**
- 6) Decentralization with domain experts**
- 7) New sources (text, images, audio...)**

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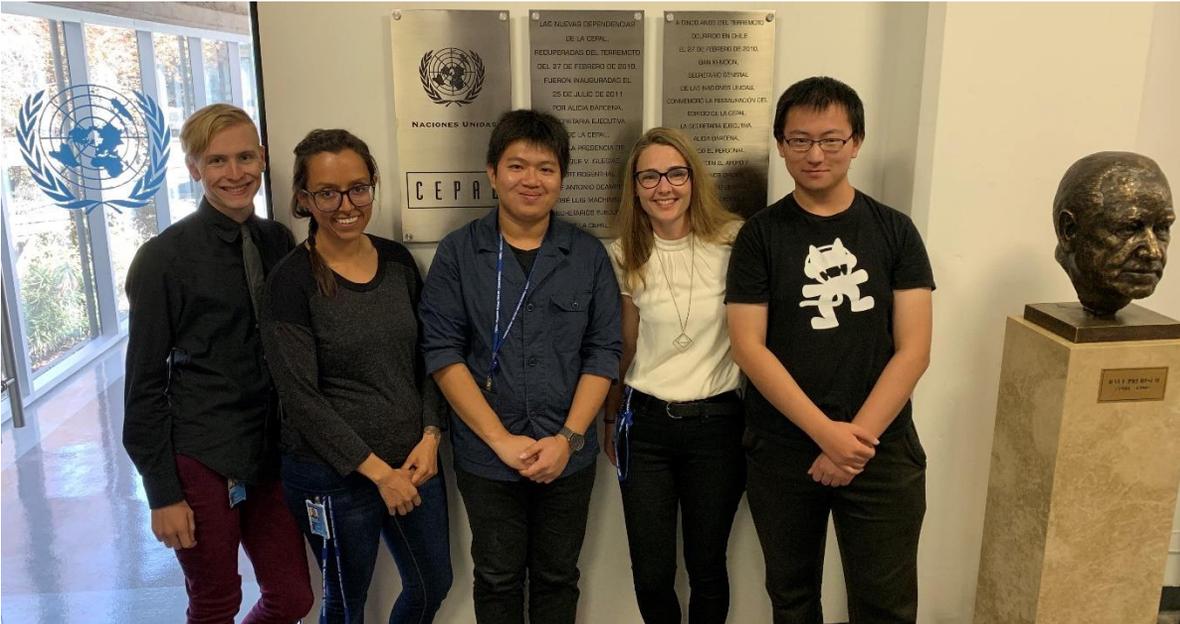
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7) New sources (text, images, audio...)

CEPAL Data Science Team early 2019



From left to right: Matt Reese (B.A. Linguistics and Chinese); Karla Rascón-García (PhD student Epidemiology); Yu-Chang (Andy) Ho (M.S. student Computer Science); Veronika Vilgis (post-doc Center for Mind and Brain); Xin Jin (Computer Science major).

The achievements are theirs, all mistakes
and misrepresentations are mine!



NACIONES UNIDAS
UNITED NATIONS



DESARROLLO
PRODUCTIVO Y
EMPRESARIAL

ASUNTOS DE GÉNERO



UNITED NATIONS



Big Data

for measuring the digital economy

A project of the 10th tranche of the UN - Development Account

