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ONLINE

INFOSECURITY SUMMIT

Inteligencia Artificial en México, ¿Dónde estamos, hacia dónde vamos?

Luis Alberto Muñoz Ubando

Director de Innovación

Grupo plenum

Miércoles 27 de mayo

13:00 h

Organizado por Reed Exhibitions

Plan de hoy

1) **Breve update y referencias**
2) El caso de CHINA en IA
3) México en el contexto de IA y negocios
4) La Ciencia de los Datos y la IA
5) Escenarios actuales ante COVID-19
6) PANARQUÍA
7) ¿ Qué podemos hacer ?

https://youtu.be/msQ0VKfFDfg

La aplicación de la Inteligencia Artificial en las empresas. Luis Alberto Muñoz Ubando

https://youtu.be/mGvdvM-w9ro

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'AI+': The core of future online education?

By Mathew Wong

China.org.cn, November 1, 2019

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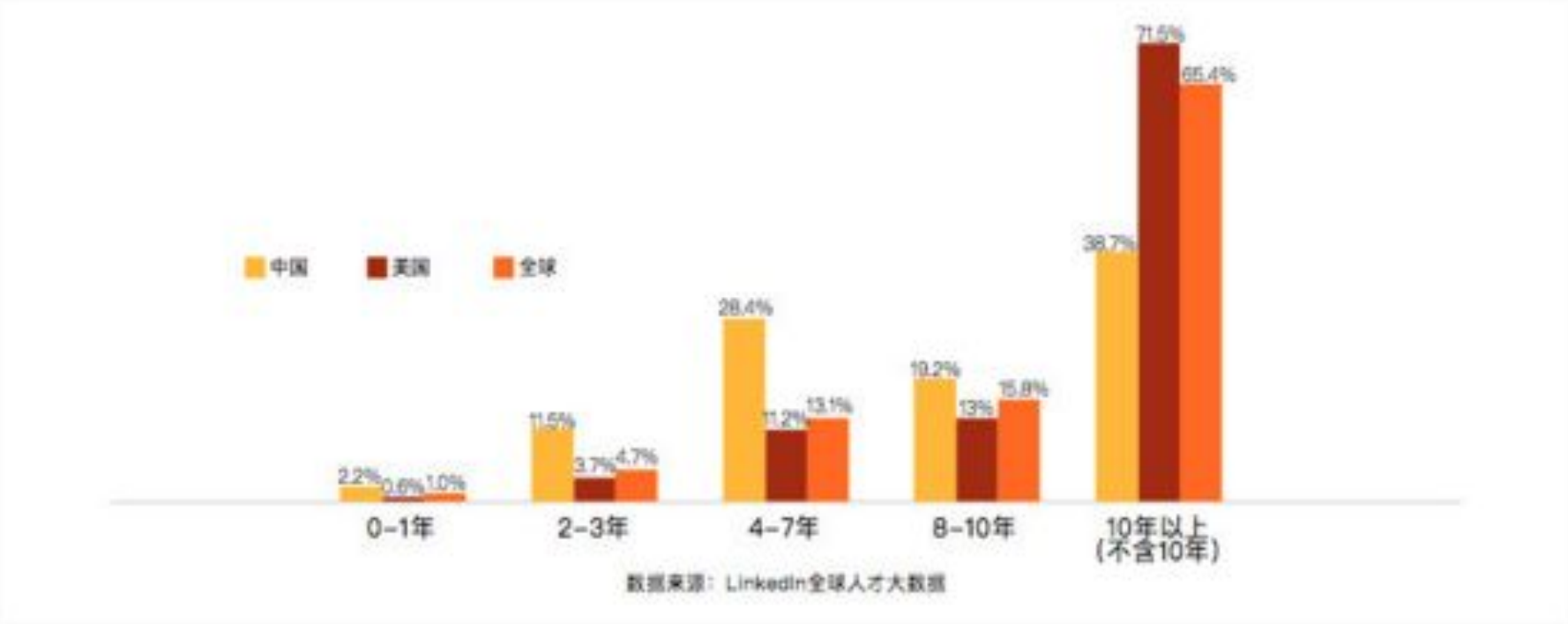
中、美、欧AI实力终极！中国进步巨大，美国仍然绝对领先

¡La máxima fuerza de la IA en China, América y Europa! China ha hecho grandes progresos, Estados Unidos todavía está absolutamente por delante



Percentages of AI talent with differing levels of experience. Yellow = China, Red = US, Orange = Global (Image credit: LinkedIn)

Educational attainment of AI talent. Yellow = China, Red = US. Left to right: undergrad, master's, MBA, Ph.D. (Image credit: LinkedIn)

Comparison of the top ten AI employers in terms of core AI roles in China and US (Image credit: LinkedIn)

			Metrics			Scores		
Year	Metric	Weight	CN	EU	US	CN	EU	US
2017	Number of AI Researchers	5	18,232	43,064	28,536	1.0	2.4	1.6
2017	Number of Top AI Researchers (H-Index)	5	977	5,787	5,158	0.4	2.4	2.2
2018	Number of Top AI Researchers (Academic Conferences)	3	2,525	4,840	10,295	0.4	0.8	1.7
2018	Educating Top AI Researchers	2	11%	21%	44%	0.3	0.6	1.2
	Total Scores	**15**				**2.1**	**6.2**	**6.7**

Policy Review

ROE

Accelerated Move for AI Education in China

ECNU Review of Education
2019, Vol. 2(3) 347–352

DOI: 10.1177/2096531119878590
journals.sagepub.com/home/roe

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Xiaozhe Yang
Institute of Curriculum and Instruction, East China Normal University

https://journals.sagepub.com/doi/pdf/10.1177/2096531119878590

Read the 2019 AI Index Report

Access the 2019 AI Index Data

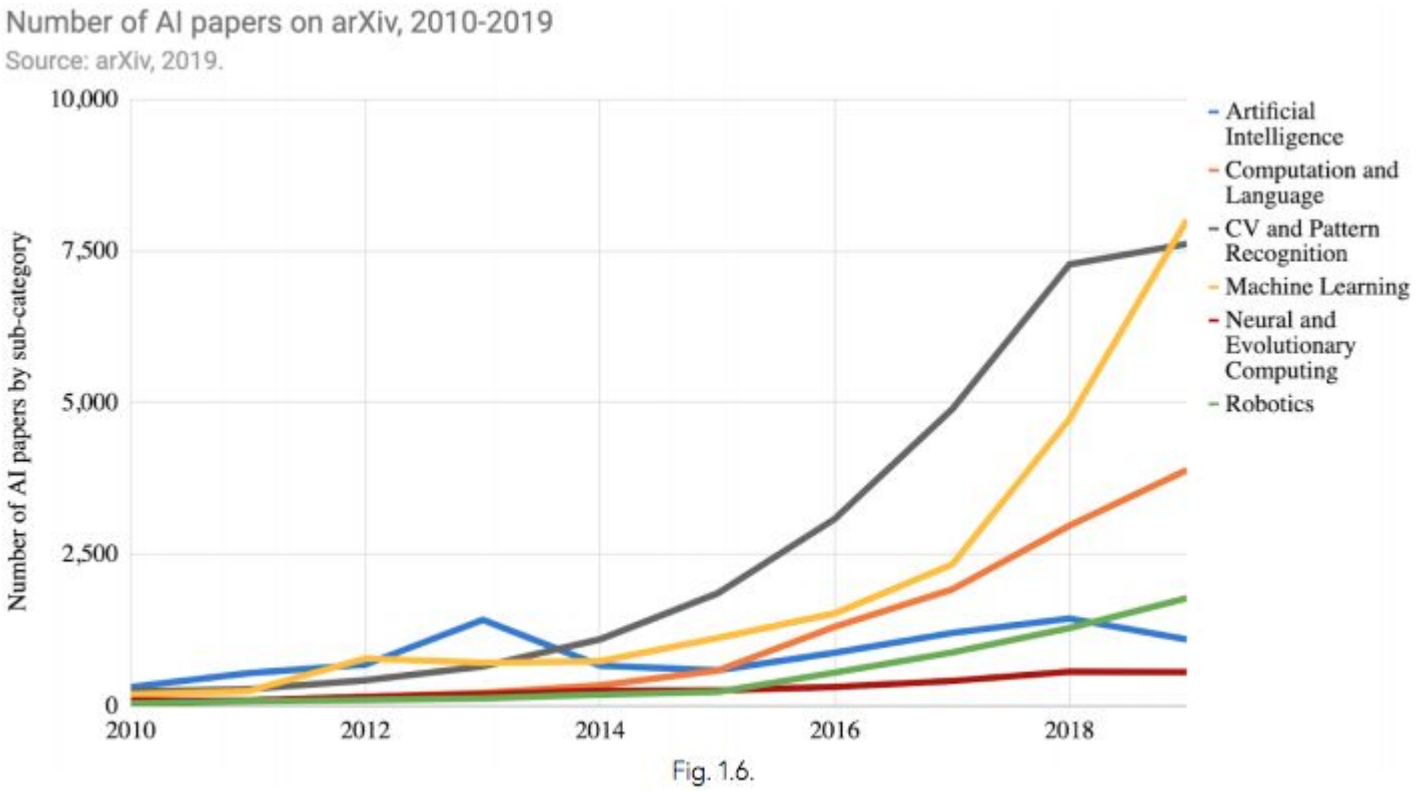

Fig. 1.6.

https://hai.stanford.edu/sites/default/files/ai_index_2019_report.pdf

Total Volume and average annual per capita AI Published Patents, 2015-2018

Source: MAG, 2019.

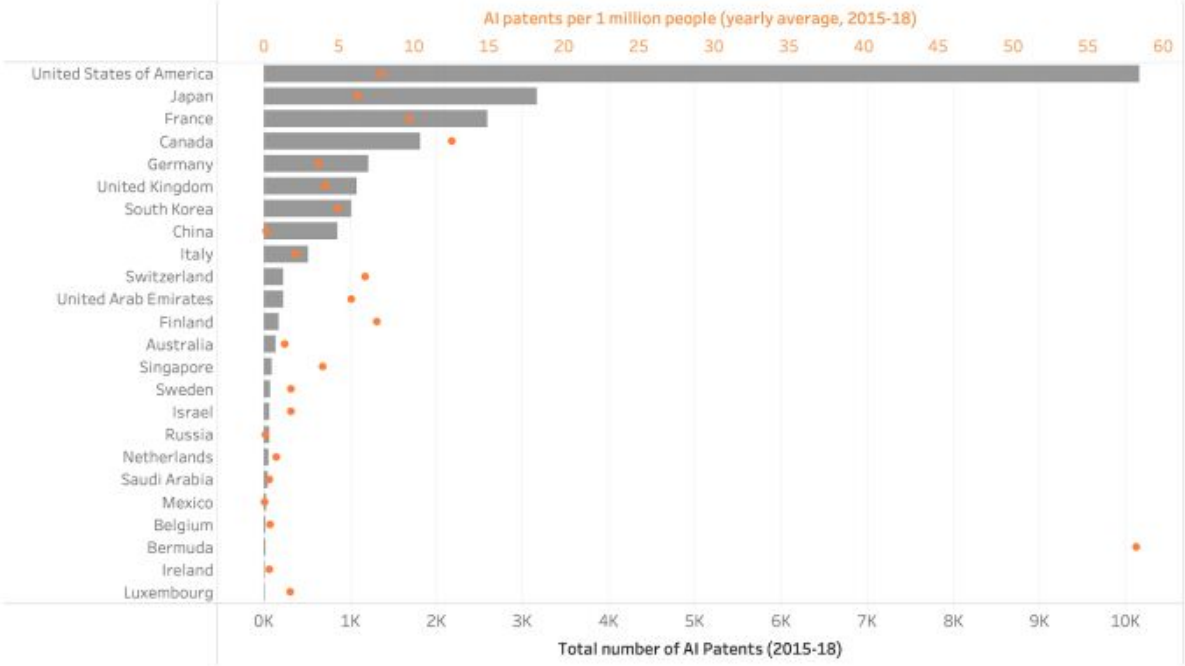

Fig. 1.12b.

https://hai.stanford.edu/sites/default/files/ai_index_2019_report.pdf

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7) ¿ Qué podemos hacer ?


INTELIGENCIA,
AUNQUE SEA
ARTIFICIAL
José Negrete Martínez
LIMUSA NORIEGA

"A CRITIQUE OF MEMORY RESEARCH"

by

Jesus Guillermo Figueroa Nazuno

Thesis presented for the degree

of

Doctor of Philosophy

in the

Department of Psychology

Faculty of Social Sciences

University of Edinburgh

MARCH 1979

TABLE OF CONTENTS

Mexico

Mexico has a young population and a growing workforce. Mid- to low-wage levels may slow automation adoption, while comparatively low GDP growth may temper growth in labor demand. The step-up scenario will create enough labor demand to offset the effects of both automation and demographics.

Economics and demographic context

Demographics
6% over 65 years of age in today's population, and growing to 10% by 2030

Economic development
1.3% GDP per capita growth, annualized 2016–30

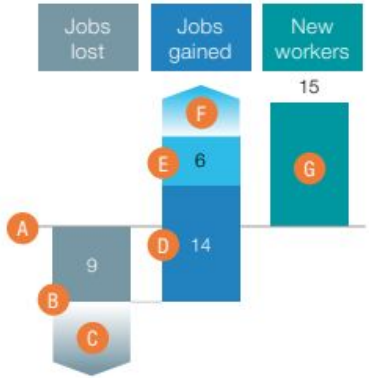
Wages
$9,000
average annual wage

Automation potential
13% of current work activity hours automated by 2030
in the midpoint scenario, and up to 26% in the rapid scenario

Jobs lost, jobs gained

Net change in jobs by 2030 (Million)

Enough jobs are created in the **step-up scenario** to offset automation and the growth in labor force, given innovation in new work activities



- A 2016 baseline
- B Jobs displaced by automation by 2030 in the midpoint scenario
- C Jobs displaced by automation by 2030 in the rapid scenario
- D Jobs created by 2030 in the trendline scenario
- E Jobs created by 2030 in the step-up scenario
- F New occupations and unsized labor demand[1]
- G Change in labor force by 2030

Growth/decline of occupation types by 2030

Occupation type *Examples*	Net change in jobs (midpoint automation, step-up scenario)[2] Million	% of jobs 2016	% of jobs 2030
Customer interaction *Retail sales, bartenders*	2.7	35	34
Builders *Construction workers, electricians*	1.7	7	8
Other jobs, predictable environments *Machinists, cooks*	1.7	25	24
Care providers *Surgeons, nurses*	1.6	4	5
Other jobs, unpredictable environments *Farmworkers, firefighters*	0.8	16	15
Office support *Payroll clerks, data entry*	0.7	6	6
Professionals *Lawyers, business specialists*	0.4	3	3
Managers and executives *CEOs, sales managers*	0.4	3	3
Educators *Teachers, librarians*	0.2	1	1
Technology professionals *Web developers, IT*	0.1	1	1
Creatives *Authors, designers*	0.1	0	0

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Aprende sobre el apasionante mundo de la robótica, su creciente aplicación y su impacto en la automatización para las industrias 4.0.

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Luis Alberto Muñoz Ubando
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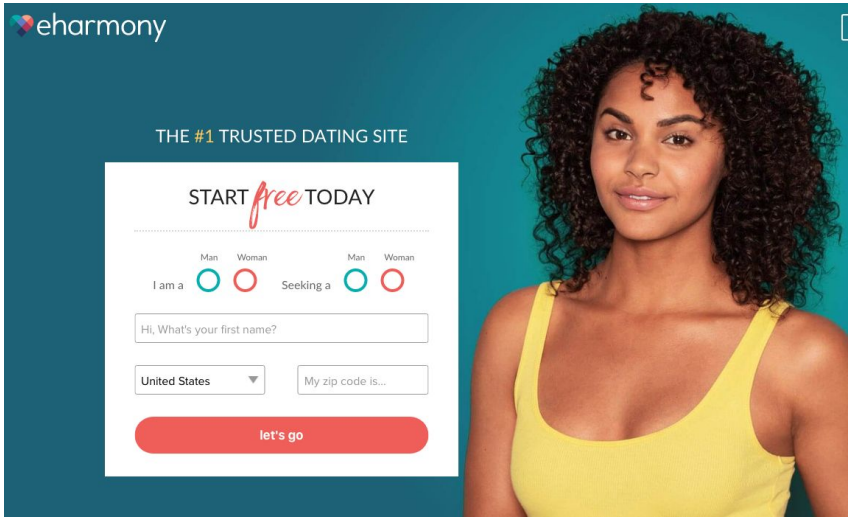
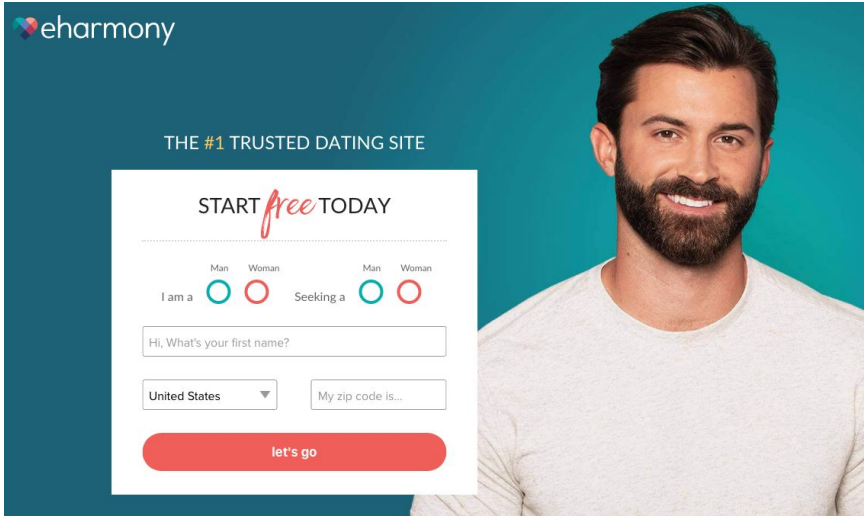
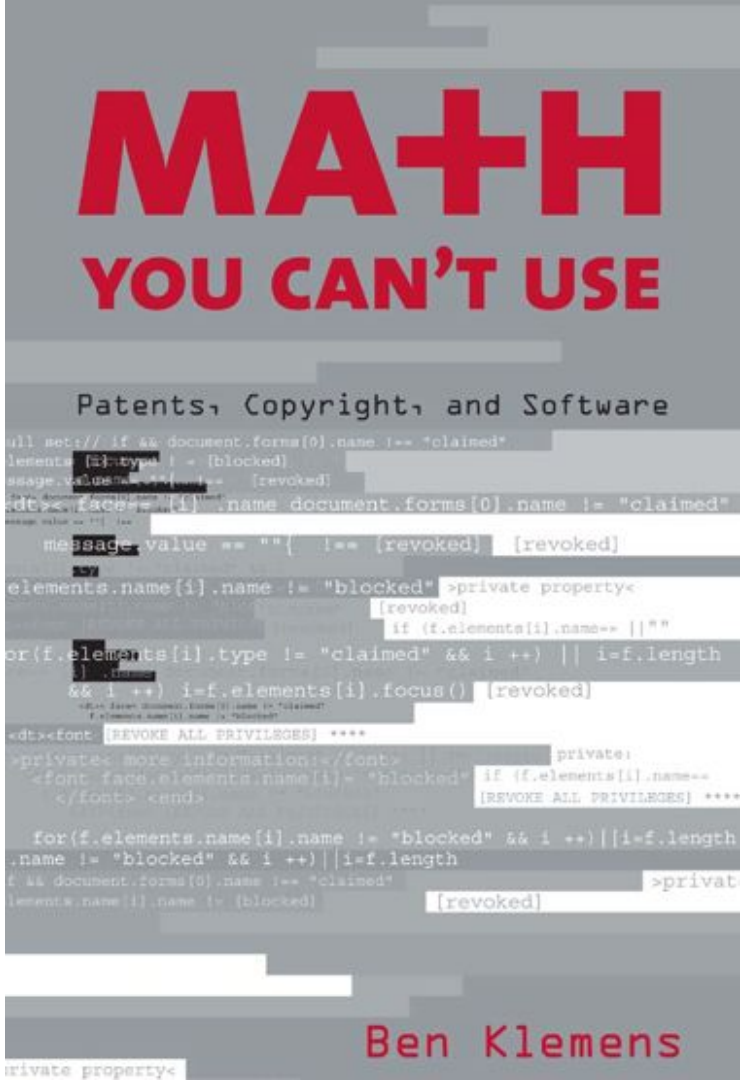






A Modern Example

As an example of how nonpatentable math becomes patentable, consider patent 6,735,568 (granted to Eharmony.com on May 11, 2004) for a "Method and system for identifying people who are likely to have a successful relationship." Despite a bit of window dressing about neural networks and verifying the results by running regressions on past matches, the gist of the process as claimed is this:

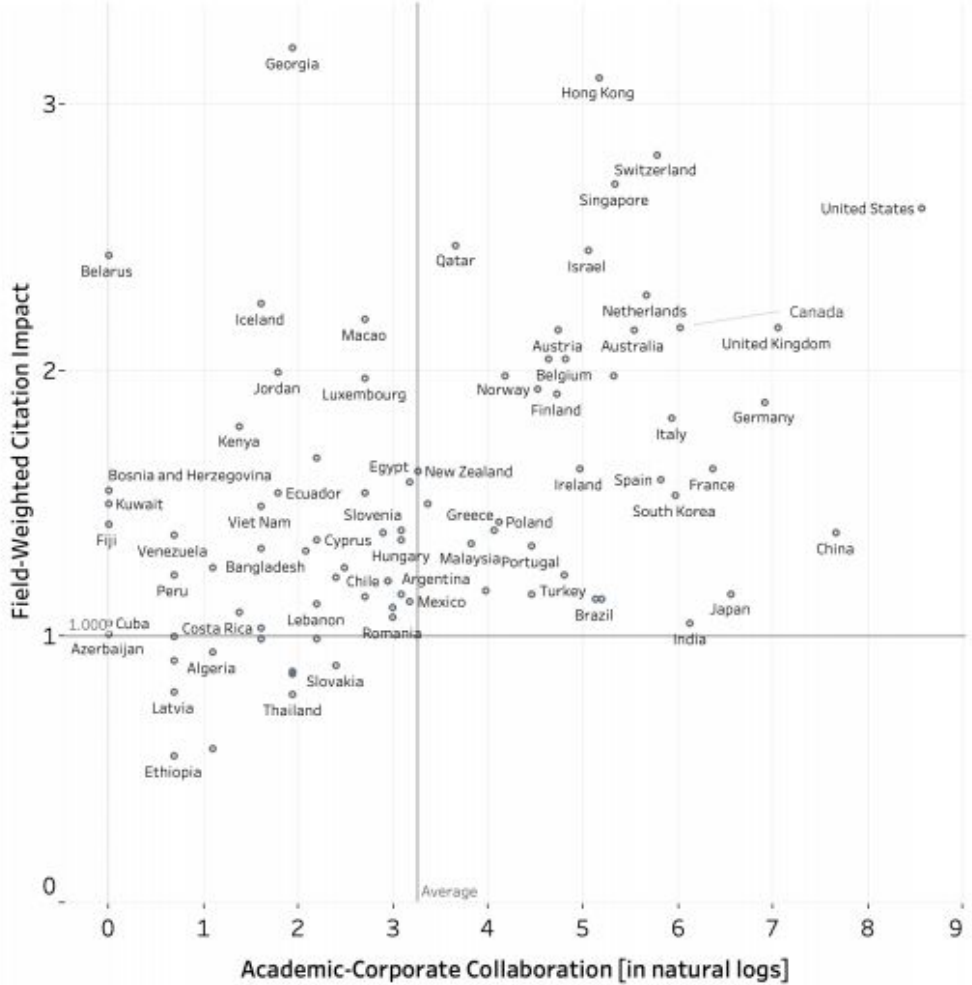
1. Ask candidates to fill out a survey.
2. Enter the data into a matrix.
3. Run a singular value decomposition (SVD) of the matrix to find the candidates' positions in an imaginary space.
4. Match candidates who are closest in the imaginary space.

Steps 1 and 2 are trivial, and given the positions calculated in step 3, step 4 is also easy (this is no traveling salesman problem!). All of the magic happens in step 3 (claim 11 of the patent). The mathematician readers will recognize the SVD (also known as principal component analysis, or factor analysis) as a standard method used in linear algebra to reduce data in many dimensions to fewer dimensions with a minimal loss of information (that is, a method for low-rank approximation). Social scientists will recognize it as a commonly used method of categorizing people; for example, political scientists use it to categorize members of Congress by their roll call votes, and anthropologists use it to determine whether people from different cultures perceive common stimuli such as colors differently.[28] Computer scientists are reminded that they just need to find the right library: for this the author suggests the GNU Scientific Library, whose `gsl_linalg_SV_decomp` function will do the entire SVD with one function call.

In short, Eharmony has taken a mathematical procedure from undergraduate linear algebra textbooks and applied it to a slightly novel setting by assigning names to the variables, calling L_1, for example, sexual passion and L_2 spirituality. The additional mathematical window dressing in

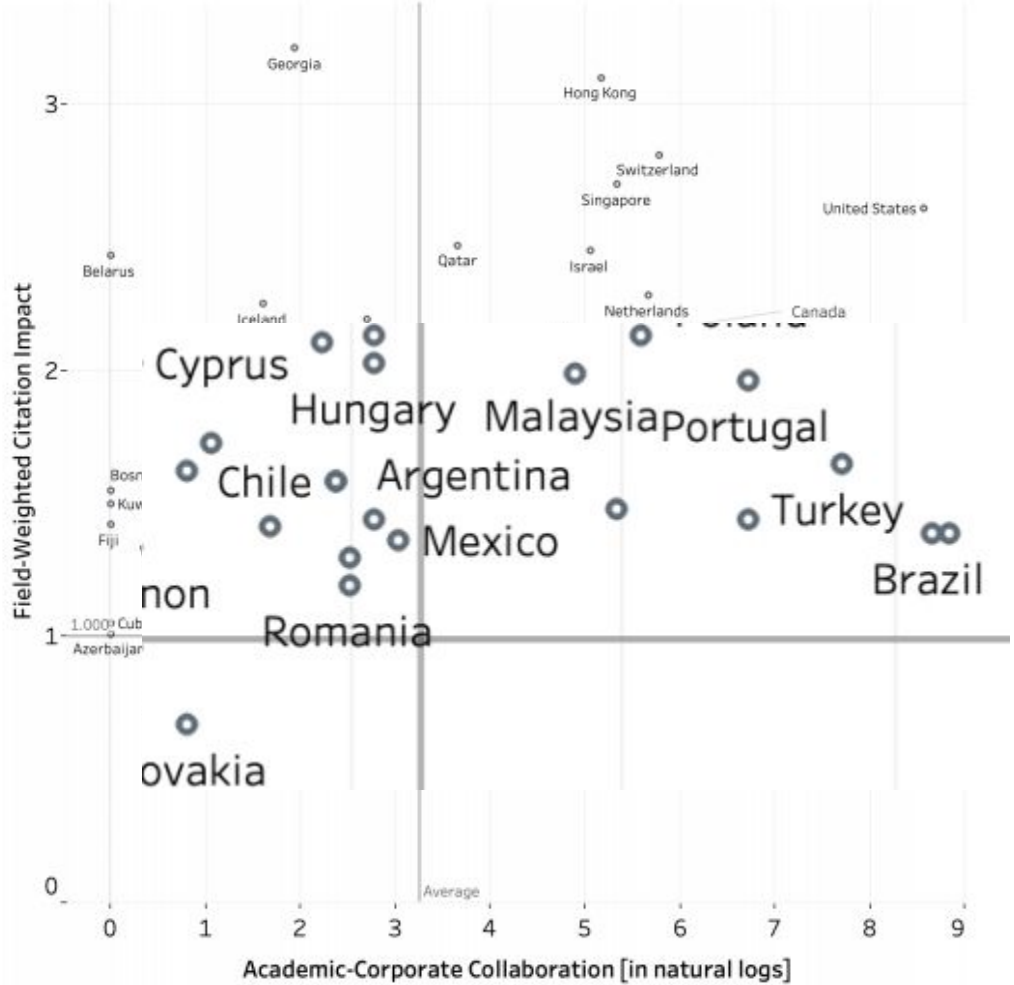
Four Quadrants for Overall AI Citation Impact (vertical axis) and the Total number of Academic-Corporate AI Papers (horizontal axisSource)

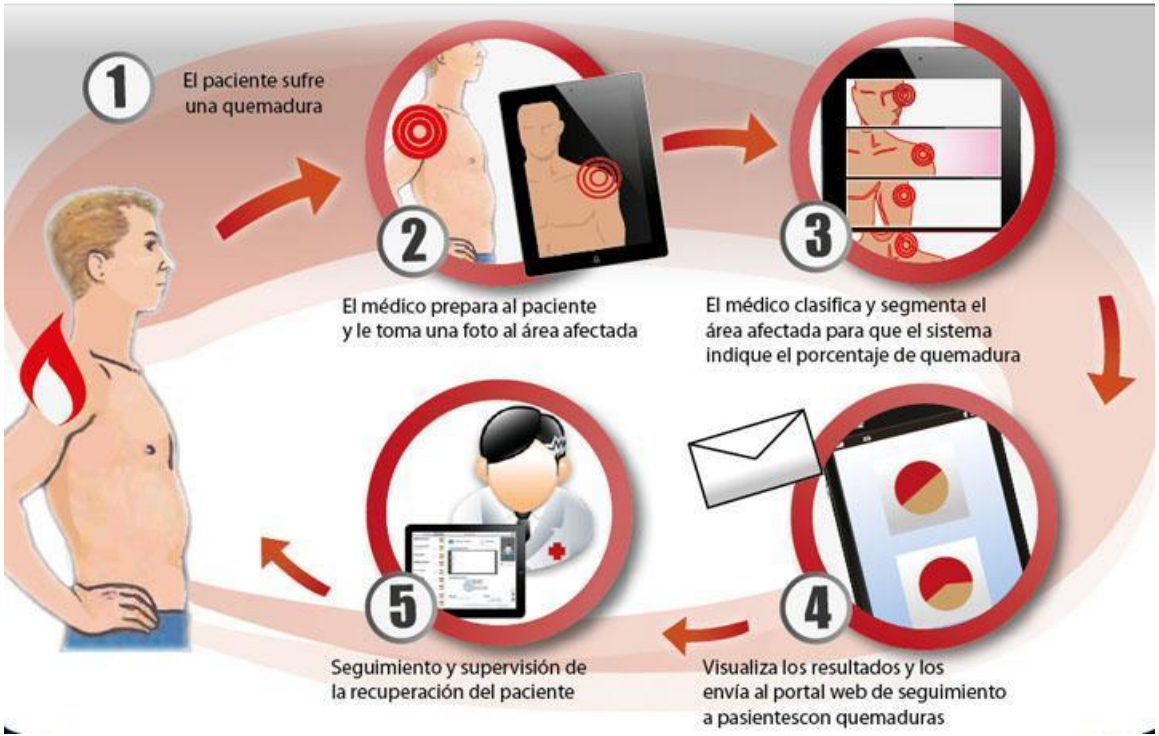
Source: Scopus, 2019.



Four Quadrants for Overall AI Citation Impact (vertical axis) and the Total number of Academic-Corporate AI Papers (horizontal axisSource)

Source: Scopus, 2019.





SE

Instituto Mexicano de la Propiedad Industrial

TÍTULO DE PATENTE NO. 335934

Titular(es): PRODUCTIVIDAD MÓVIL S.A. DE C.V.

Domicilio: Calle 60 Norte, Número 299, Colonia Revolución, 97115, Mérida, Yucatán, MÉXICO

Denominación: MÉTODO PARA MEDIR LA EXTENSIÓN Y PROFUNDIDAD DE TEJIDO QUEMADO UTILIZANDO UN DISPOSITIVO MÓVIL

Clasificación: Int.Cl.8: G06F19/00; G06T17/00

Inventor(es): LUIS ALBERTO MUÑOZ UBANDO; SALVADOR ELÍAS VENEGAS ANDRACA; LEONARDO BRAVO RUIZ; JUAN FRANCISCO GARCIA GARCIA; VICTOR ALVARO GUTIERREZ MARTINEZ

SOLICITUD

Número: MX/a/2010/008391

Fecha de presentación: 30 de julio de 2010

Hora: 12:38

PRIORIDAD

País:

Fecha:

Número:

Vigencia: Veinte años

Fecha de Vencimiento: 30 de julio de 2030

Fecha de expedición: 24 de noviembre de 2015

LA DIRECTORA DIVISIONAL DE PATENTES

NAHANNY CANAL REYES

Biografía 2 de 63 Opciones Compartir Enviar

Plenumsoft
Reach Higher

- **3** PHD Level Computer Science
- **2** PHD Level Robotics
- **2** Master Degree in Artificial Intelligence
- **10** Master Degree in Computer Science, Math & Physics
- **30+** Team of Data Scientists, Data Engineers, Data Science Executives
- **200 +** Projects with some element of AI embedded

The technology

- Data classification (Bayes Network, Decision Tree, etc.)
- Data Clustering (Data Segmentation)
- Machine Learning, Deep Learning & Predictive Analytics
- Natural Language Processing (Translation, extraction & classification)
- Vision (Pattern Recognition & Machine Vision)
- Regression (Linear Regression, ANN, Genetic Algorithm, Monte Carlo Method)
- Data Mining (K-means)

Scope of Experience

- Education
- Logistics
- Health
- Maritime
- Agro-business
- Energy

As long as there is valuable data, we can extract high level applicable knowledge

Plenumsoft
Reach Higher

	Agroindustry: Cattle Estimation	Logistic: Driver behavior	Education: School violence	Agroindustry: Drone Images	Energy: Simulation Core
Business Problem	Optimize the production of milk and beef.	Reduce fuel costs and extend vehicle lifetime of the company fleet.	Early detection of school violence based of enviromental factors.	Assess the status of plants in large fields in hard to reach areas.	Gain experience designing the water infrastructure needed around an oil extraction zone.
AI Element	Scientific model Machine learning Database pre-processing	Signal processing Event detection Time analysis Bayesian network	Clustering Graph theory	Image processing Pattern recognition	Path finding Multithreading
Solution	Desktop app to make an estimation of the genetic value of the cattle using the family history.	Mobile app the records the behavior of the driver during trips using integrated sensors, recording potential risk conducts.	App that uses information of the area around the school to assess negative influence areas and gives the location a risk score.	Using an hyperspectral camera, plants area automatically detected and information regarding of their health and status are obtained.	Desktop app that loads the disposition of the extraction zones, and both the water sources and treatment centers. With option for manually drawn pipelines and tank trucks with automatic path finding. All the physical models are multithreaded and coordinated by the core of the simulator.

Plenumsoft
Reach Higher

	Health: Glucose Monitoring	Health: Cancer Risk Detection	Logistics: Simulation	Logistics: Scheduler Optimization	Logistics: Stock Optimization
Business Problem	A prompt response to an emergency requires accurate and prompt data. People of interest should be constantly aware of the condition of their love ones.	Survival rates depend on detecting cancer on early stages. Access to high level laboratories for image analysis should be available widely.	How to rate level of risk based on political, technological and weather related variables	How to rate level of risk based on political, technological and weather related variables	Optimize stock levels of spare parts based on historic information about previous purchases adding other related variables as weather, geographic characteristics, road conditions
AI Element	Complex Pattern Recognition Machine Learning	Machine learning Pre-processing of images Complex pattern recognition	Bayes Network	Mathematical optimization and metaheuristics	Machine Learning (Supervised learning & ANN)
Solution	Mobile app able to recognize blood sugar metrics taken by any commercial glucose monitoring device and send to interests recipients for applicable response	Mobile app able to analyze cervix images to immediately determine level of risk for prompt response	Design of Bayes network to rate level of risk for 3 levels	Design of Bayes network to rate level of risk for 3 levels	Design web system that forecast optimum purchase levels for next periods

https://www.ia2030.mx/

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Published Standards	Year Published	Title of Standard
ISO/IEC 27000	2009	Information technology – Security techniques – Information security management systems – Fundamentals and vocabulary
ISO/IEC 27001	2005	Information technology – Security techniques – Information security management systems – Requirements
ISO/IEC 27002	2005	Information technology – Security techniques – Code of practice for information security management
ISO/IEC 27003	2010	Information technology – Security techniques – Information security

ISO/IEC 27000 Family of Standards Relationships

Vocabulary standard

- ISO/IEC 27000 Information security management systems -- Overview and vocabulary

Requirement standards

- ISO/IEC 27001 Information security management systems -- Requirements
- ISO/IEC 27006 Requirements for bodies providing audit and certification of information security management systems
- ISO/IEC 27009 Sector-specific application of ISO/IEC 27001 -- Requirements

Guideline standards

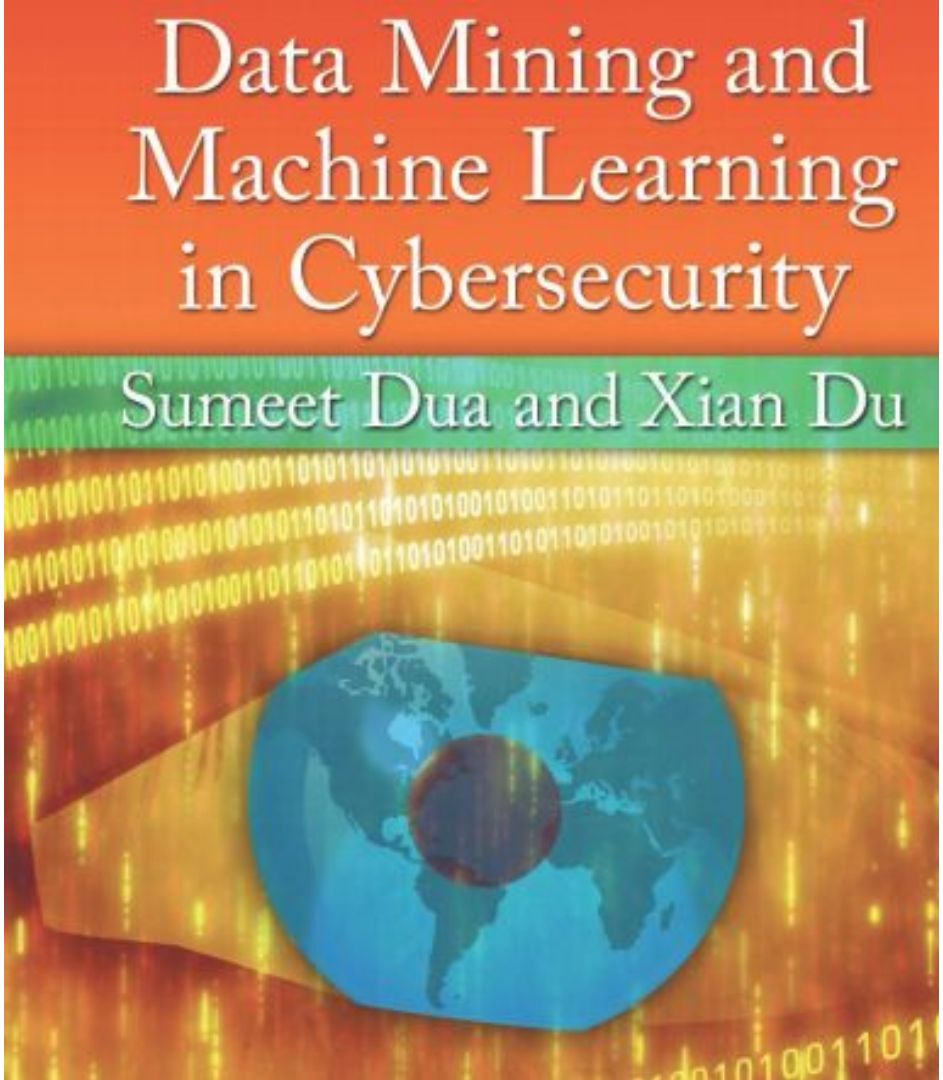
- ISO/IEC 27002 Code of practice for information security controls
- ISO/IEC 27003 Information security management systems -- Guidance
- ISO/IEC 27004 Information security management -- Monitoring, measurement, analysis and evaluation
- ISO/IEC 27005 Information security risk management
- ISO/IEC 27007 Guidelines for information security management systems auditing
- ISO/IEC TR 27008 Guidelines for auditors on information security controls
- ISO/IEC 27013 Guidance on the integrated implementation of ISO/IEC 27001 and ISO/IEC 20000-1
- ISO/IEC 27014 Governance of information security
- ISO/IEC TR 27016 Information security management -- Organizational economics
- ISO/IEC 27021 Competence requirements for information security management systems professionals
- ISO/IEC TR 27023 Mapping the revised editions of ISO/IEC 27001 and ISO/IEC 27002

Sector-specific guideline standards

- ISO/IEC 27010 Information security management for inter-sector and inter-organizational communications
- ISO/IEC 27011 Code of practice for Information security controls based on ISO/IEC 27002 for telecommunications organizations
- ISO/IEC 27017 Code of practice for information security controls based on ISO/IEC 27002 for cloud services
- ISO/IEC 27018 Code of practice for protection of personally identifiable information (PII) in public clouds acting as PII processors
- ISO/IEC 27019 Information security controls for energy utility industry
- ISO 27799[9] Health informatics -- Information security management in health using ISO/IEC 27002

Control-specific guideline standards

- ISO/IEC 2703x
- ISO/IEC 2704x
- ISO/IEC 2705x


Data Mining and
Machine Learning
in Cybersecurity
Sumeet Dua and Xian Du

data
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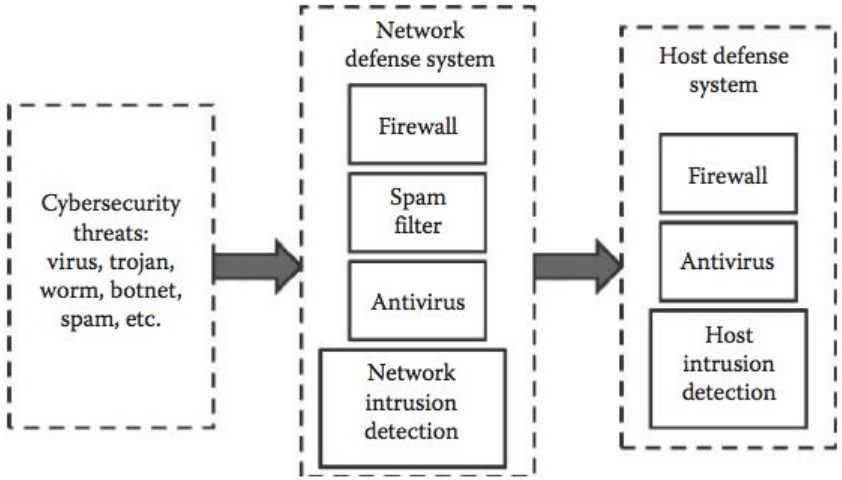

Figure 1.1 Conventional cybersecurity system.

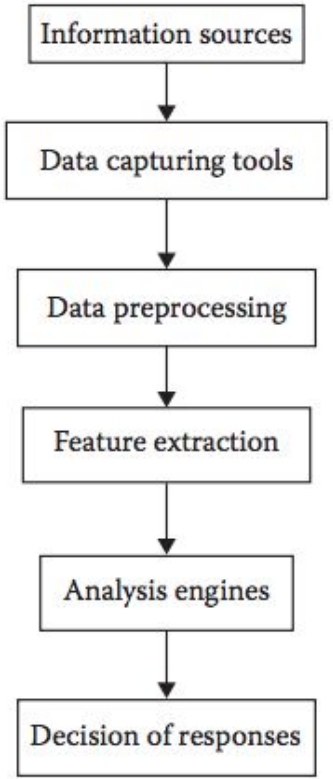

Figure 1.2 Adaptive defense system for cybersecurity.

Table 1.1 Examples of PPDM

Data-Mining Techniques	*Privacy-Preservation Methods*	*References*
A.1 Statistical methods	Heuristic-based	Du et al. (2004)
A.2 Bayesian networks (BNs)	Reconstruction-based	Wright and Yang (2004)
A.3 Unsupervised clustering algorithm	Heuristic-based	Vaidya and Clifton (2003)
A.4 Association rules	Reconstruction-based	Evfimievski et al. (2002)
A.5 ANNs	Cryptography-based	Barni et al. (2006)
A.6 Decision tree	Cryptography-based	Du and Zhan (2002), Agrawal and Srikant (2000)
A.7 *k*-nearest neighbor (KNN)	Cryptography-based	Kantarcioglu and Clifton (2004)
A.8 SVM	Reconstruction-based	Yu et al. (2006)

Table 1.3 Examples of Data Mining and Machine Learning for Anomaly Detection

Technique Used	*Input Data Format*	*Levels*	*References*
C.1 Statistical methods	Sequences of system calls, offline	Host	Ye et al. (2001), Feinstein et al. (2003), Smaha (1988), Ye et al. (2002)
C.2 Statistical methods	TCP/IP data, online	Network	Yamanishi and Takeuchi (2001), Yamanishi et al. (2000), Mahoney and Chan (2002, 2003), Soule et al. (2005)
C.3 Unsupervised clustering algorithm	TCP/IP data, offline	Network	Portnoy et al. (2001), Leung and Leckie (2005), Warrender et al. (1999), Zhang and Zulkernine (2006a,b)
C.4 Subspace	TCP/IP data offline	Network	Li et al. (2006)
C.5 Information theoretic	TCP/IP, online	Network	Lakhina et al. (2005)
C.6 Association rules	Frequency of system calls, online	Host	Lee and Stolfo (1998), Abraham et al. (2007a,b), Su et al. (2009), Lee et al. (1999)
C.7 Kalman filter	TCP/IP data, online	Network	Soule et al. (2005)
C.8 Hidden Markov model (HMM)	Sequences of system calls, offline	Host	Warrender et al. (1999)
C.9 ANN	Sequences of system calls, offline	Host	Ghosh et al. (1998, 1999), Liu et al. (2002)
C.10 Principal component analysis (PCA)	TCP/IP data, online	Network	Lakhina et al. (2004), Ringberg et al. (2007)
C.11 KNN	Frequency of system calls, offline	Host	Liao and Vemuri (2002)
C.12 SVM	TCP/IP data, offline	Network	Hu et al. (2003), Chen et al. (2005)

Table 1.2 Examples of Data Mining and Machine Learning for Misuse/Signature Detection

Technique Used	*Input Data Format*	*Levels*	*References*
B.1 Rule-based signature analysis	Frequency of system calls, off line	Host	Lee et al. (1999)
B.2 ANN	TCP/IP data, offline	Host	Ghosh and Schwartzbard (1999), Cannady (1998)
B.3 Fuzzy association rules	Frequency of system calls, online	Host	Abraham et al. (2007b), Su et al. (2009)
B.4 SVM	TCP/IP data, offline	Network	Mukkamala and Sung (2003)
B.5 Linear genetic programs (LGP)	TCP/IP data, offline	Network	Mukkamala and Sung (2003), Abraham et al. (2007a,b), Srinivas et al. (2004)
B.6 Classification and regression trees	Frequency of system calls, offline	Host	Chebrolu et al. (2005)
B.7 Decision tree	TCP/IP data, online	Network	Kruegel and Toth (2003)
B.8 BN	Frequency of system calls, offline	Host	Chebrolu et al. (2005)
B.9 Statistical method	Executables, offline	Host	Schultz et al. (2001)

Table 1.4 Examples of Data Mining for Hybrid Intrusion Detection

Technique Used	*Input Data Format*	*Levels*	*References*
D.1 Correlation	TCP/IP data, online	Network	Ning et al. (2004), Cuppens and Miège (2002), Dain and Cunningham (2001a,b)
D.2 Statistical methods	Sequences of system calls, offline	Host	Endler (1998)
D.3 ANN	Sequences of system calls, offline	Host	Endler (1998)
D.4 Association rules	Frequency of system calls, online	Host	Lee and Stolfo (2000)
D.5 ANN	TCP/IP data, online	Network	Ghosh et al. (1999)
D.6 Random forest	TCP/IP data, online	Network	Zhang and Zulkernine (2006a,b)

Table 1.5 Examples of Data Mining for Scan Detection

Technique Used	*Granularity*	*Levels*	*References*
E.1 Statistical methods	Batch	Both	Staniford et al. (2002a,b)
E.2 Rule-based	Batch	Both	Staniford-Chen et al. (1996)
E.3 Threshold random walk	Continues	Host	Jung et al. (2004)
E.4 Expert knowledge—rule based	Batch	Network	Simon et al. (2006)
E.5 Associative memory	Continuous	Network	Muelder et al. (2007)

Table 1.6 Examples of Data Mining for Profiling

Technique Used	*Input Data Format*	*Levels*	*References*
F.1 Association rules	Set of network flow, offline	Network	Apiletti et al. (2008)
F.2 Shared nearest neighbor clustering (SNN)	Set of network flow, offline	Network	Ertöz et al. (2003), Chandola et al. (2006)
F.3 EM-based clustering	Set of network flow, offline	Network	Patcha and Park (2007)
F.4 Subspace	Set of network flow, offline	Network	Lakhina et al. (2004), Erman et al. (2006)
F.5 Information theoretic	Set of network flow, offline	Network	Xu et al. (2008)


01
BUSINESS UNDERSTANDING
Ask relevant questions and define objectives for the problem that needs to be tackled.
02
DATA MINING
Gather and scrape the data necessary for the project.
03
DATA CLEANING
Fix the inconsistencies within the data and handle the missing values.
04
DATA EXPLORATION
Form hypotheses about your defined problem by visually analyzing the data.
05
FEATURE ENGINEERING
Select important features and construct more meaningful ones using the raw data that you have.
06
PREDICTIVE MODELING
Train machine learning models, evaluate their performance, and use them to make predictions.
07
DATA VISUALIZATION
Communicate the findings with key stakeholders using plots and interactive visualizations.
DATA SCIENCE LIFECYCLE
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01
BUSINESS UNDERSTANDING
Ask relevant questions and define objectives for the problem that needs to be tackled.
07
VISUALIZATION
02
DATA MIN

stions and define
he problem that
be tackled.

02

DATA MINING

Gather and scrape the data necessary for the project.

CIENCE

CIENCE

YCLE

p.co

Fix the inconsistencies within the data and handle the missing values.

04

DATA EXPLORATION

Form hypotheses about your defined problem by visually analyzing the data.

05

NGINEERING

ant features and
re meaningful
e raw data that
have.

Train machine learning models, evaluate their performance, and use them to make predic-tions.

05

FEATURE ENGINEERING

Select important features and construct more meaningful ones using the raw data that you have.

04

DATA EXPLORATI

Form hypotheses about defined problem by visu analyzing the data.

LIFE

SU

06

PREDICTIVE MODELING

Train machine learning models, evaluate their performance, and use them to make predictions.

05

Ask relevant
objectives
needs

07

DATA VISUALIZATION

Communicate the findings with key stakeholders using plots and interactive visualizations.

DATA S

Ask relevant
objectives
needs

07

DATA VISUALIZATION

Communicate the findings with key stakeholders using plots and interactive visualizations.

DATA S

Plenumsoft Reach Higher	Propuesta	Resultado
Bancor 	Caso de uso para *Churn Prediction*	Modelo entrenado para predecir la probabilidad de *churn* de los clientes
Aerolínea 	Automatización de Procesos de ETL	Replicación de los procesos de ETL y, en consecuencia, reducción de horas-hombre
Banco LATAM 	Segmentación de usuarios para venta	Modelo entrenado para predecir la probabilidad de que un cliente adquiera
Restaurants 	Reglas de Asociación y Segmentación de usuarios	Segmentos de clientes obtenidos mediante las reglas de asociación del historial de tickets
Retail (BIG) 	Optimización del área de piso de venta mediante el Método Simplex	Automatización de procesos para la solicitud de optimización de asignación de área por segmento
Cámara 	Visualización geográfica de actos delictivos en tiempo real	App prototipo para generar reportes y Dashboard para visualizar éstos en tiempo real
FinTech 	Modelado para prevención de Fraude	EDA sobre casos extraños y generación de un *scoring* para priorizar atención y prevenir fraudes
Educación 	EDA sobre rendimiento de Telesecundarias a nivel nacional	Reporte del EDA para mostrar la importancia e impacto de las Telesecundarias a nivel nacional

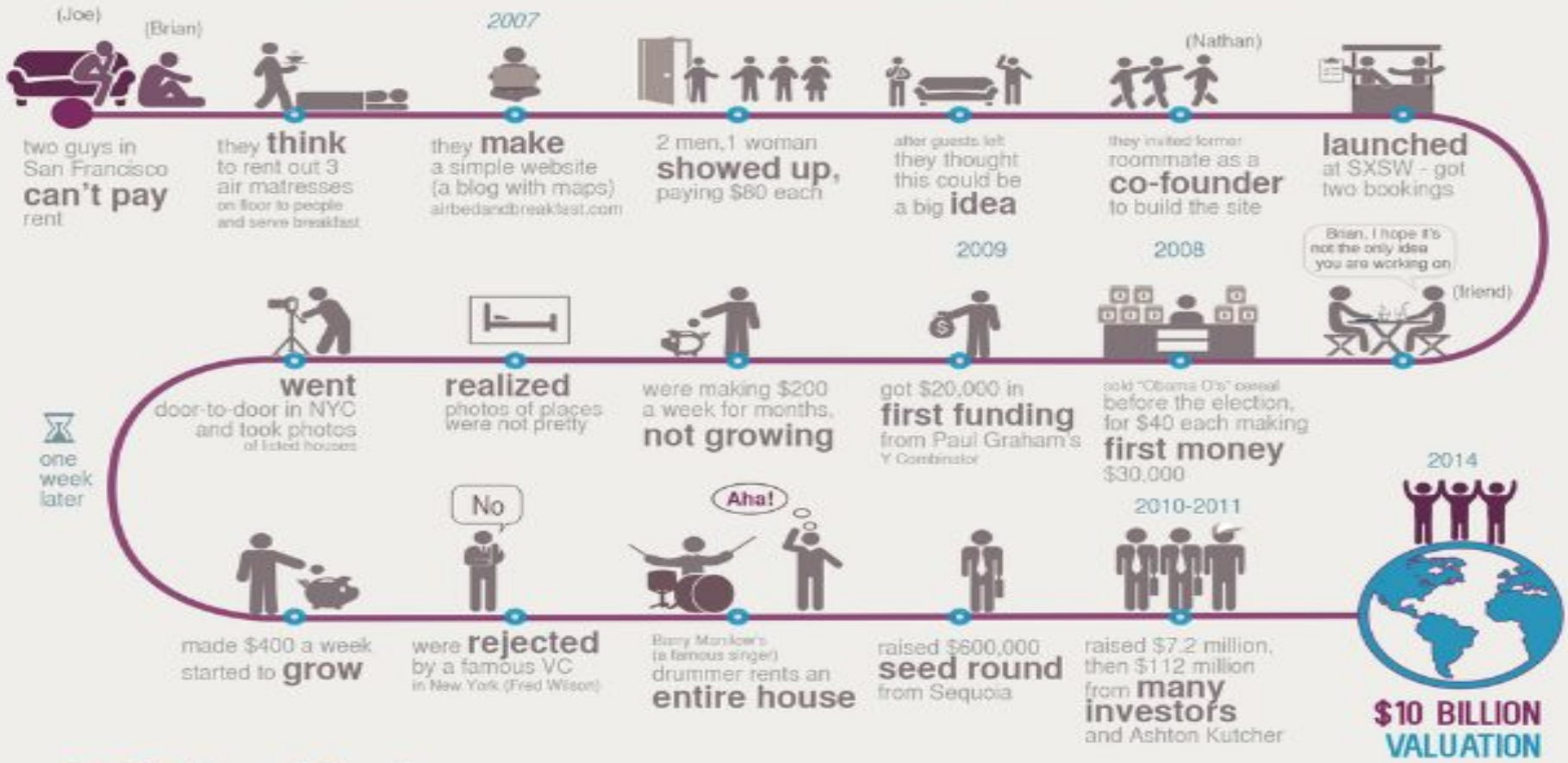
Plan de hoy

1) Breve update y referencias
2) El caso de CHINA en IA
3) México en el contexto de IA y negocios
4) La Ciencia de los Datos y la IA
5) **Escenarios actuales ante COVID-19**
6) PANARQUÍA
7) ¿ Qué podemos hacer ?

HOW AIRBNB STARTED

BY ANNA VITAL

Or How 3 Guys Went From Renting Air Mattresses To A 10 Billion Dollar Company



Funders and Founders

based on reports in *Telegraph*, *WSJ*, and *The Atlantic*

Airbnb Newsroom

A Message from Co-Founder and CEO Brian Chesky

By Airbnb · May 5, 2020 · **Company**

While these actions were necessary, it became clear that we would have to go further when we faced two hard truths:

1. ***We don't know exactly when travel will return.***
2. ***When travel does return, it will look different.***

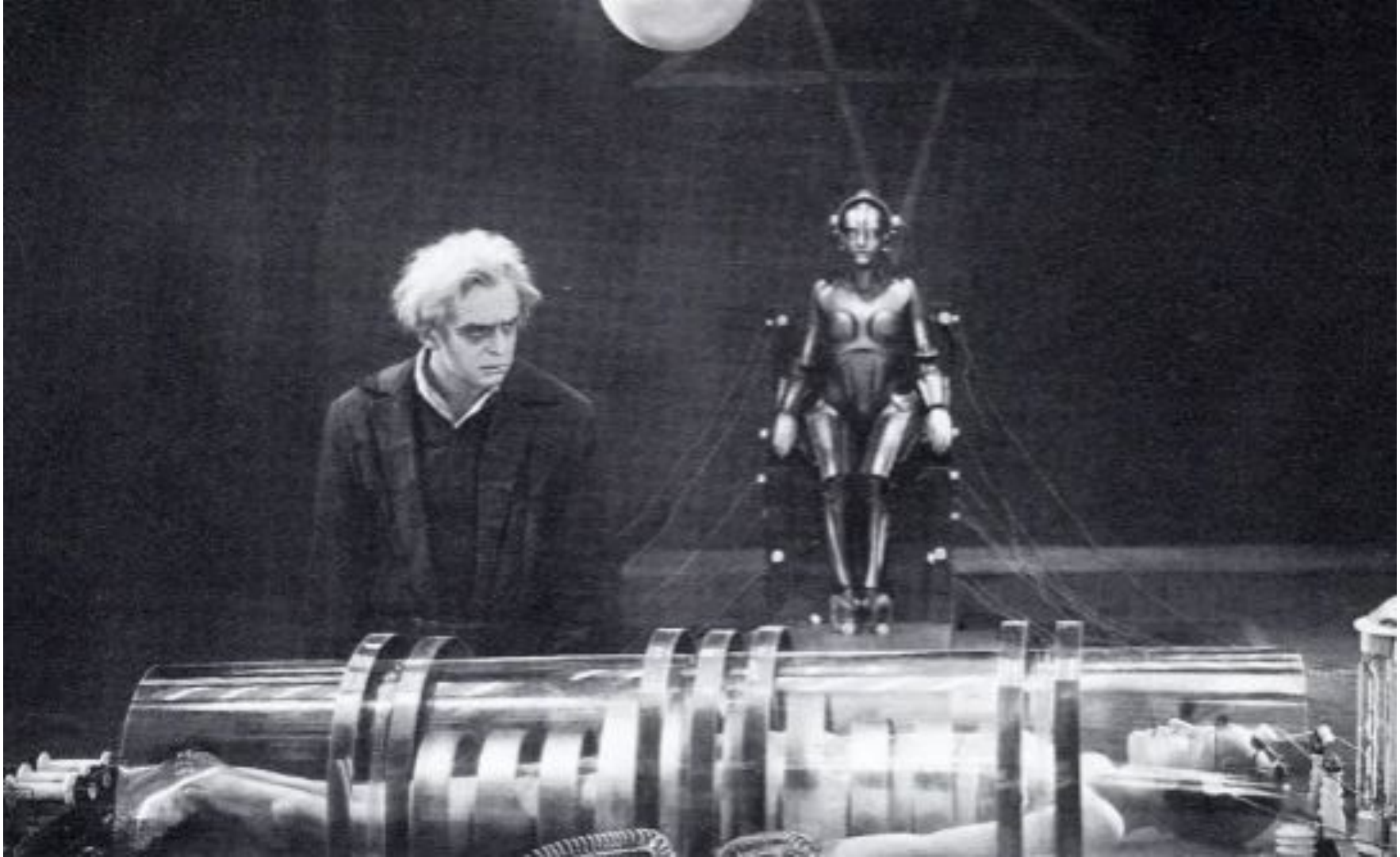
The Economist @TheEconomist · 8m

The pandemic may be remembered not just as a health disaster, but as a geopolitical turning-point away from America

Is China winning?

The geopolitical consequences of covid-19 will be subtle, but unfortunate


R7.C.




ROBEAR


TU/e

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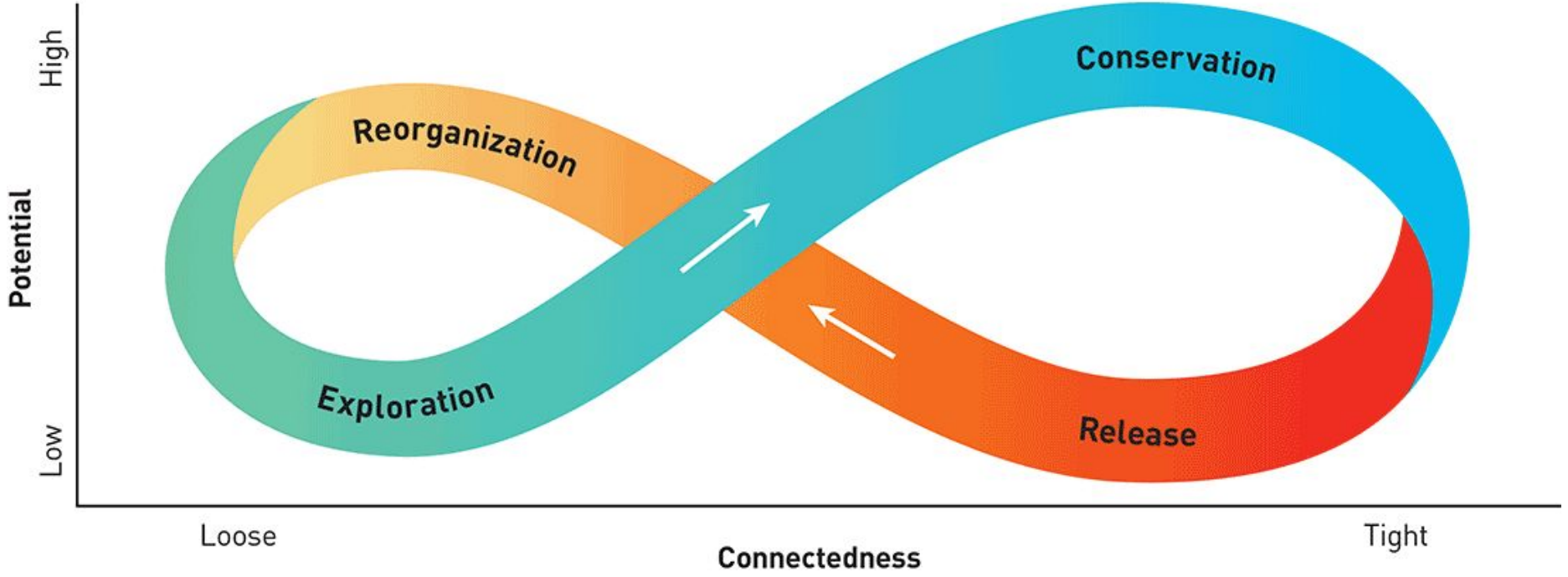
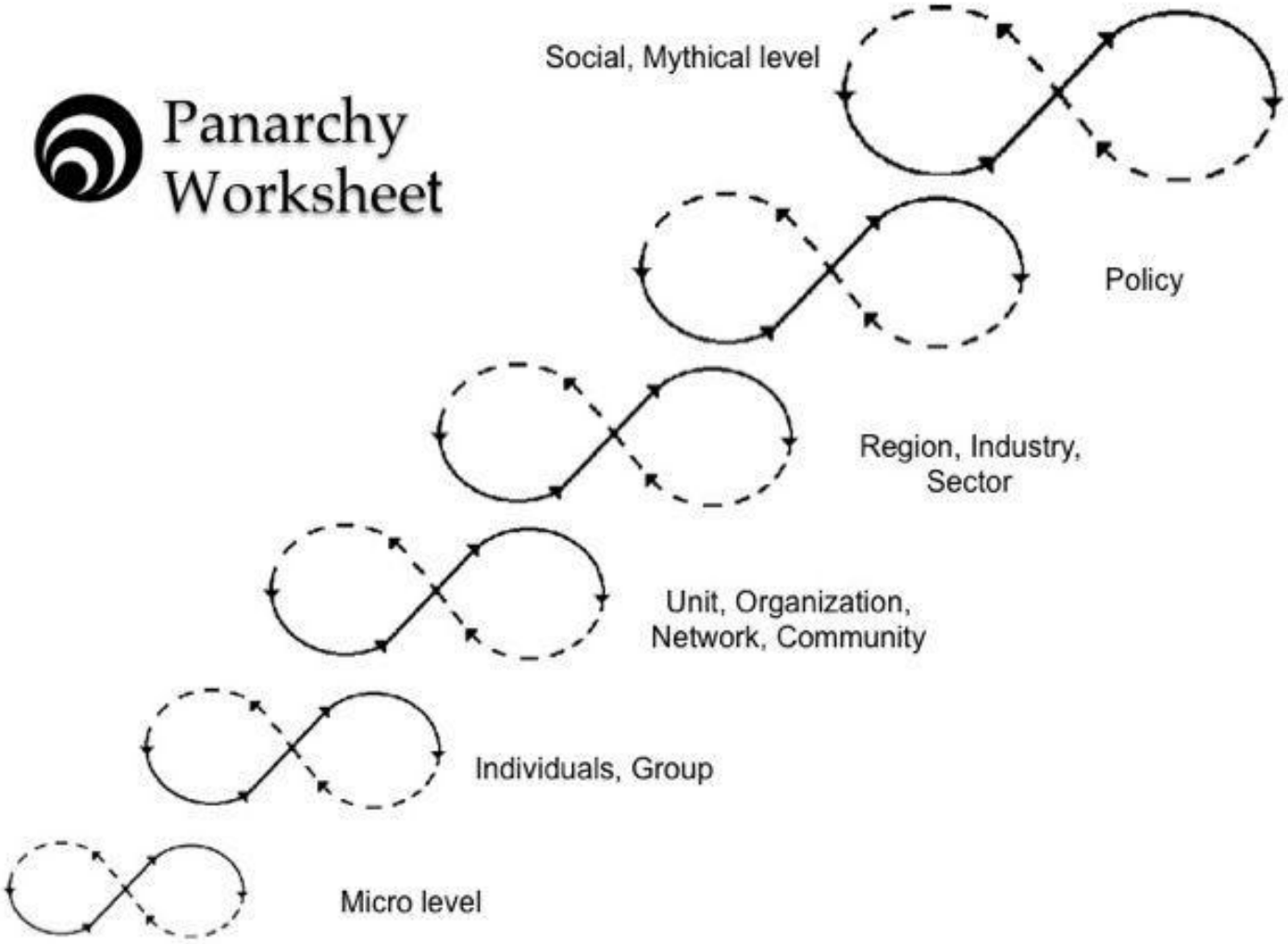
The adaptive cycle

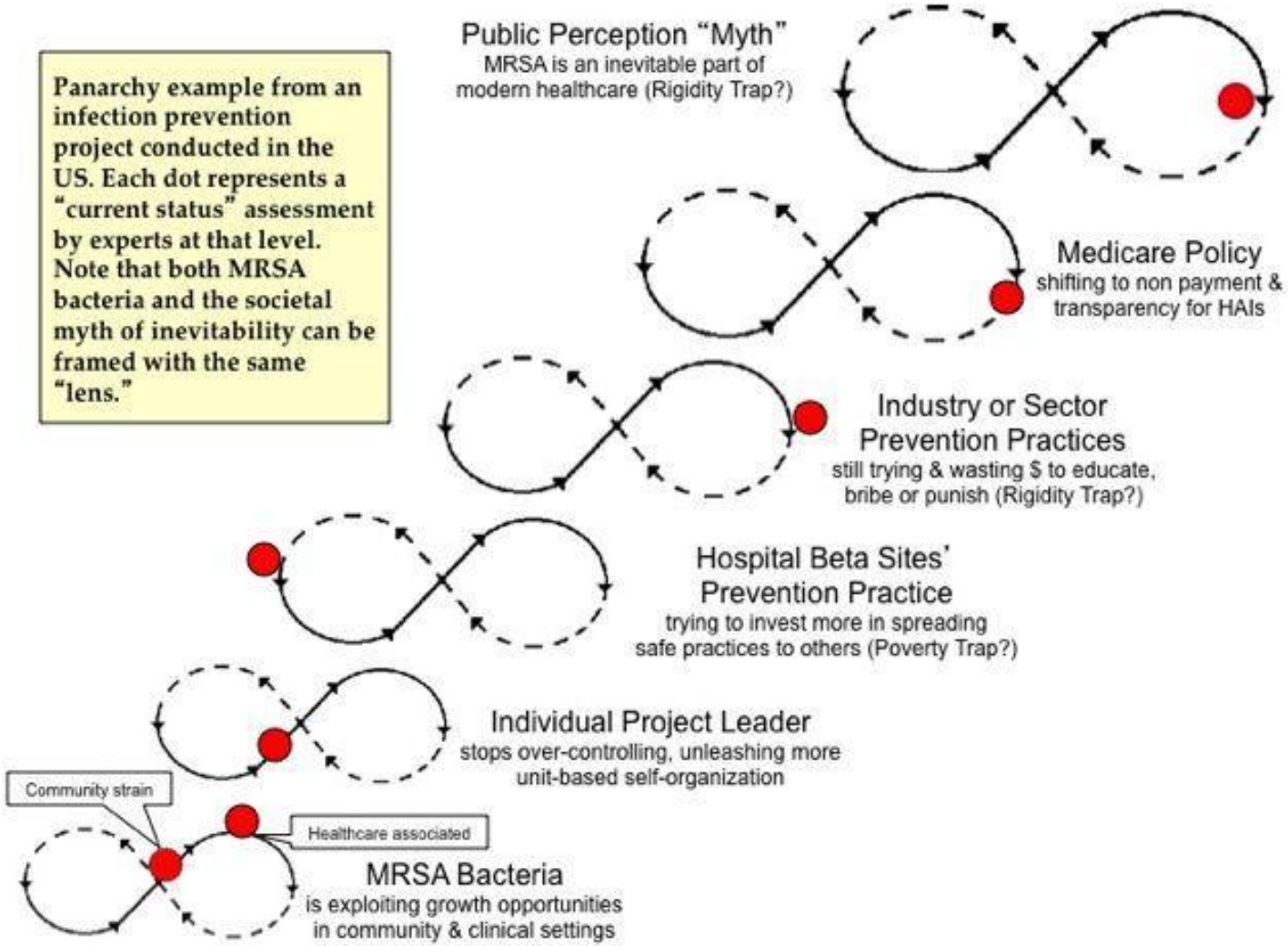
An infinity loop is a model for how destructive processes create spaces for new growth in both business and nature.

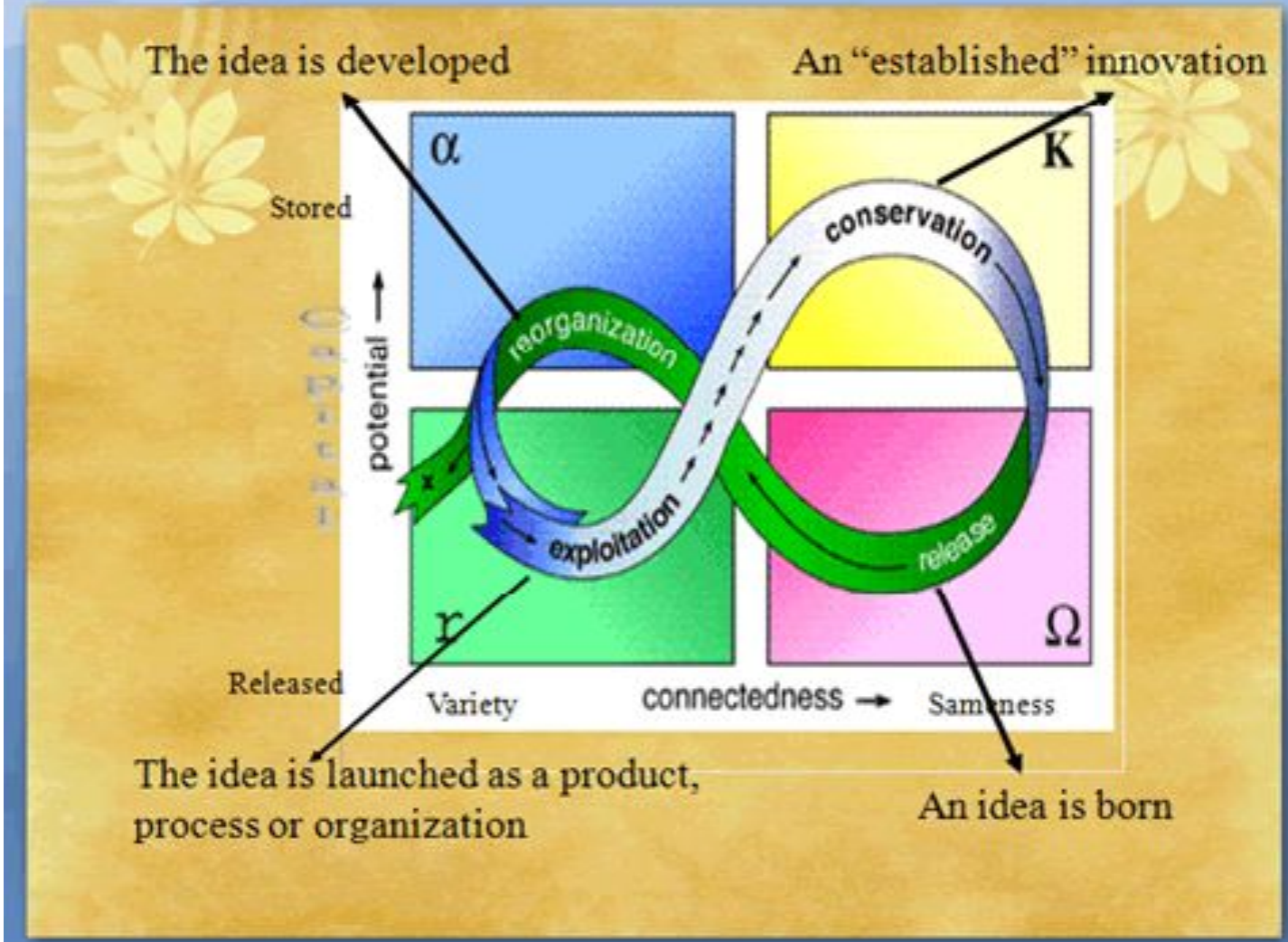


Source: Adapted from Lance Gunderson and C.S. Holling, *Panarchy: Understanding Transformations in Human and Natural Systems* (Island Press, 2001)

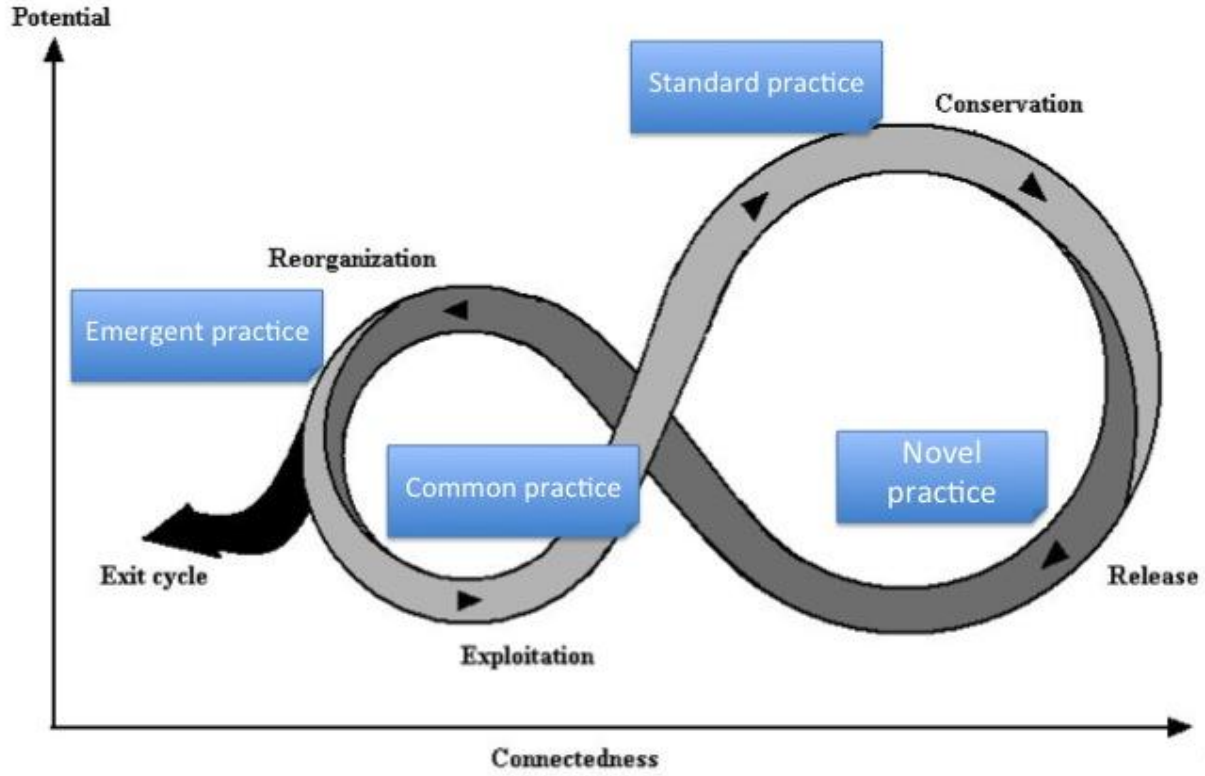
Panarchy Worksheet




Panarchy example from an infection prevention project conducted in the US. Each dot represents a "current status" assessment by experts at that level. Note that both MRSA bacteria and the societal myth of inevitability can be framed with the same "lens."
Public Perception "Myth"
MRSA is an inevitable part of modern healthcare (Rigidity Trap?)
Medicare Policy
shifting to non payment & transparency for HAIs
Industry or Sector Prevention Practices
still trying & wasting $ to educate, bribe or punish (Rigidity Trap?)
Hospital Beta Sites' Prevention Practice
trying to invest more in spreading safe practices to others (Poverty Trap?)
Individual Project Leader
stops over-controlling, unleashing more unit-based self-organization
Community strain
Healthcare associated
MRSA Bacteria
is exploiting growth opportunities in community & clinical settings

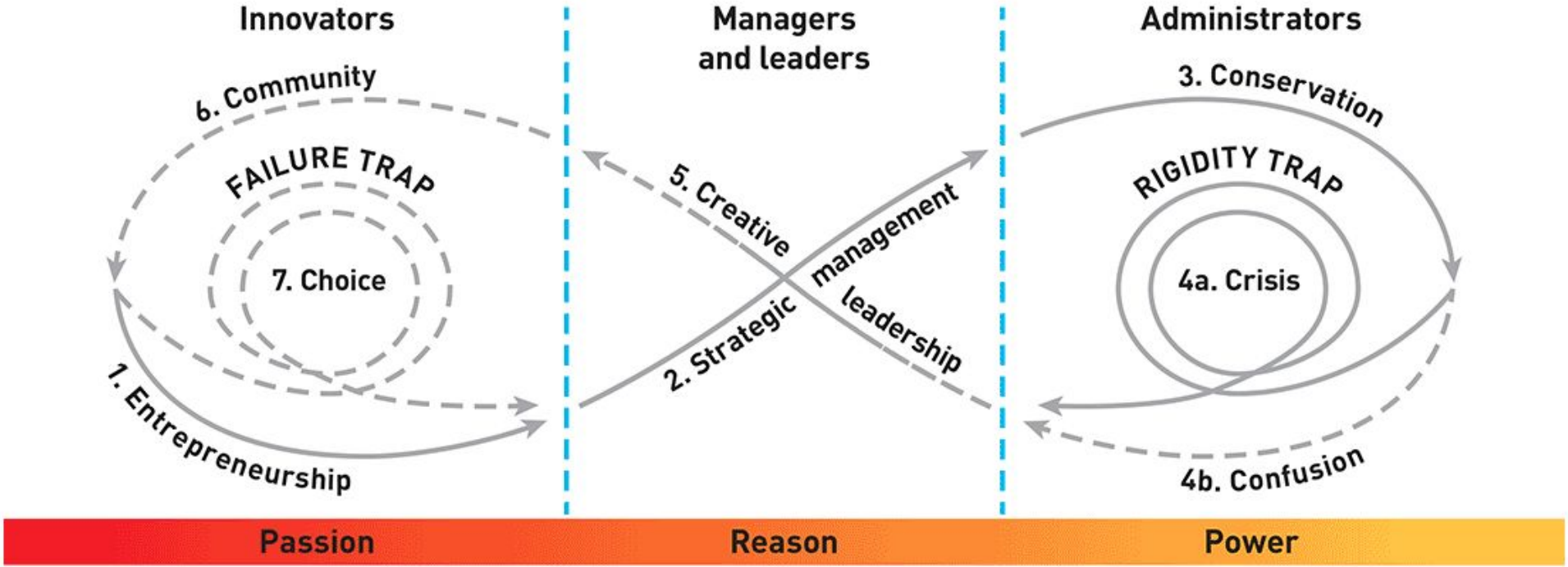

The idea is developed
An "established" innovation
α
K
Stored
conservation
reorganization
potential
exploitation
release
r
Ω
Released
Variety
connectedness
The idea is launched as a product, process or organization
An idea is born

Adaptive Cycle



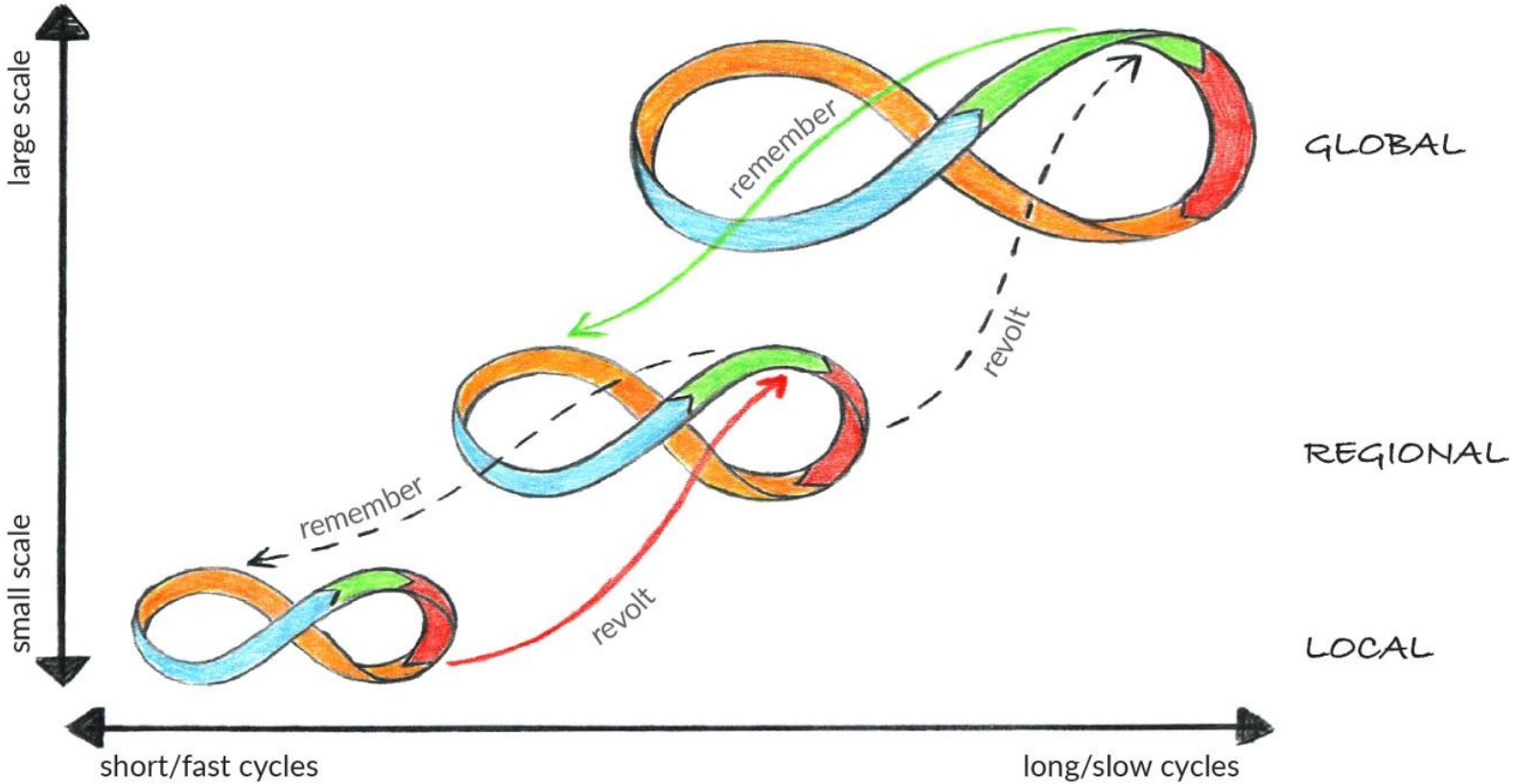
Adaptive cycles contain two major traps

Most companies won't make it all the way through an adaptive business cycle.
The solid lines represent the slow "front loop," and the dashed lines are the fast "back loop."



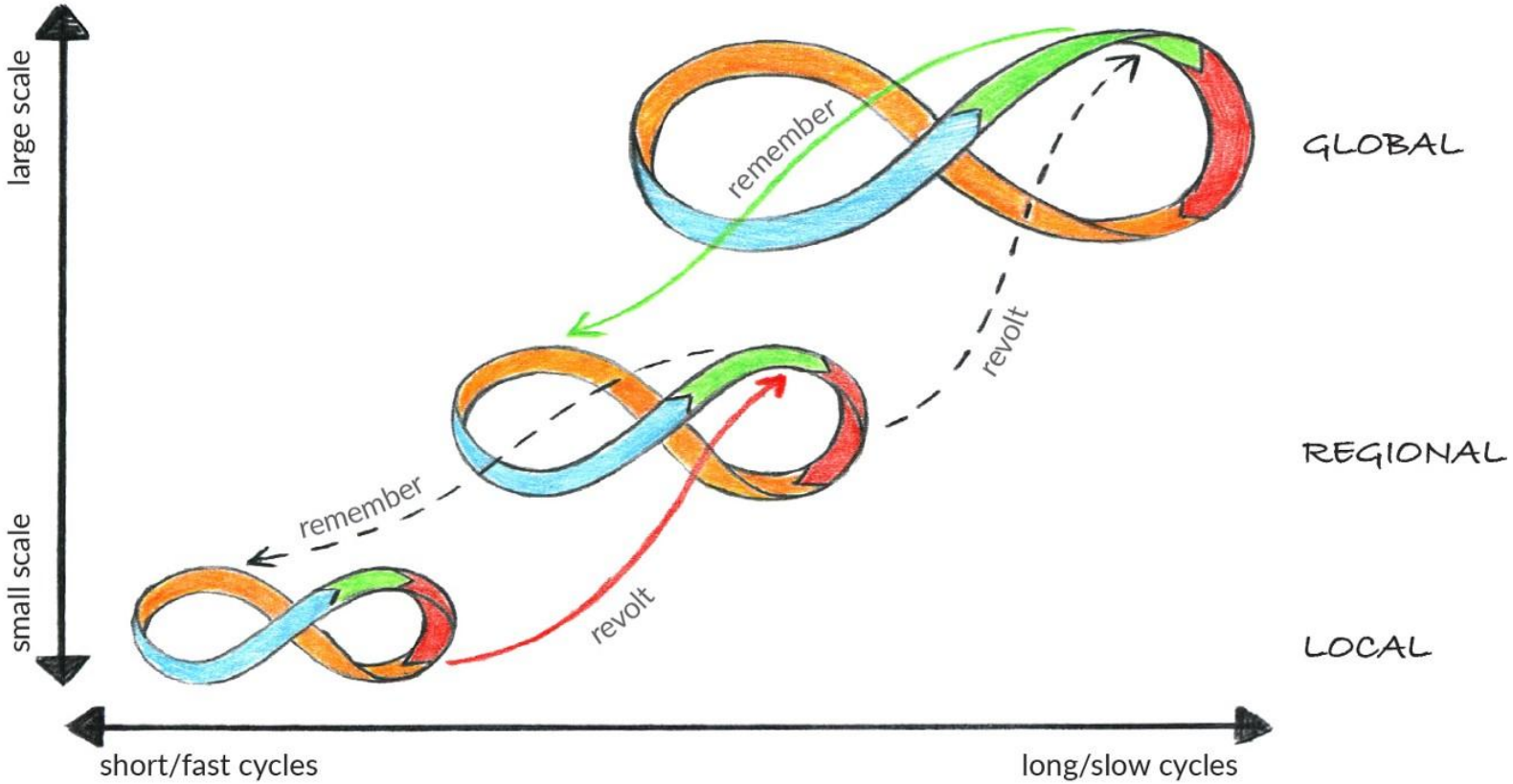
Source: David K. Hurst, *The New Ecology of Leadership: Business Mastery in a Chaotic World* (Columbia Business School Publishing, 2012)

PANARCHY OF INTERCONECTED ADAPTIVE CYCLES AT DIFFERENT SPATIAL AND TEMPORAL SCALES



Source: Designing Regenerative Cultures, 2016 - www.danielchristianwahl.com; Graphics: www.flaviagargiulo.com

PANARCHY OF INTERCONECTED ADAPTIVE CYCLES AT DIFFERENT SPATIAL AND TEMPORAL SCALES



Source: Designing Regenerative Cultures, 2016 - www.danielchristianwahl.com; Graphics: www.flaviagargiulo.com

土着化(どちゃくか)

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7) **¿ Qué podemos hacer ? 土着化 !!**

What is Glocalization?

土着化 (どちゃくか) - dochakuka

Glocalization originated from Japanese business practices in the 1980s. Its literal translation was Dochakuka (土着化: melding global inside local). Glocalization, the blending and connecting of local and global contexts while maintaining differences and significant contribution of different cultural communities, serves to prevent learner assimilation in the host country (Kettaneh, 2016). It enriches learning and empowers learners since global issues are related and connected to local practice (Apple, Kenway, & Singh, 2005). By definition, the term glocal refers to those individuals, groups, divisions, units, organizations, and communities that are willing and able to "think globally and act locally" (Tien & Talley, 2012, p. 126). For the purpose of our research, Robertson's (1995) definition of glocalization as "the simultaneity— the co-presence— of both universalizing and particularizing tendencies" (p. 30) was utilized. Hence, to implement the concept of "think globally, act locally," educators and administrators should re-think their strategy relating to curriculum design and institutional policy. Educators and policy makers should permit construction of courses, pedagogy, and campus environments that enhance students' retention, employability, and prepare them to become globally compatible citizens (Yang, 2001).

土着化 (どちゃくか) - dochachuka


SWITZERLAND
AUSTRIA
HUNGARY
CROATIA
BOSNIA AND HERZEGOVINA


CENTRO INTERNAZIONALE
LORIS MALAGUZZI
TECNOPOLO

università di ferrara
DA SEICENTO ANNI GUARDIAMO AVANTI.

RegioneEmilia-Romagna
Assessorato Scuola, formazione professionale, università e ricerca, lavoro

Secretaría General Iberoamericana
Las Pymes como factor del desarrollo económico y social en Iberoamérica
Las oportunidades de una alianza con el Magreb
La Articulación productiva a partir de las PYMES

Las Pymes come eje de desarrollo económico local y de innovación

Presentación Inicial Prof. Patrizio Bianchi
Madrid, 22 de octubre de 2012

4.0
La nuova rivoluzione industriale

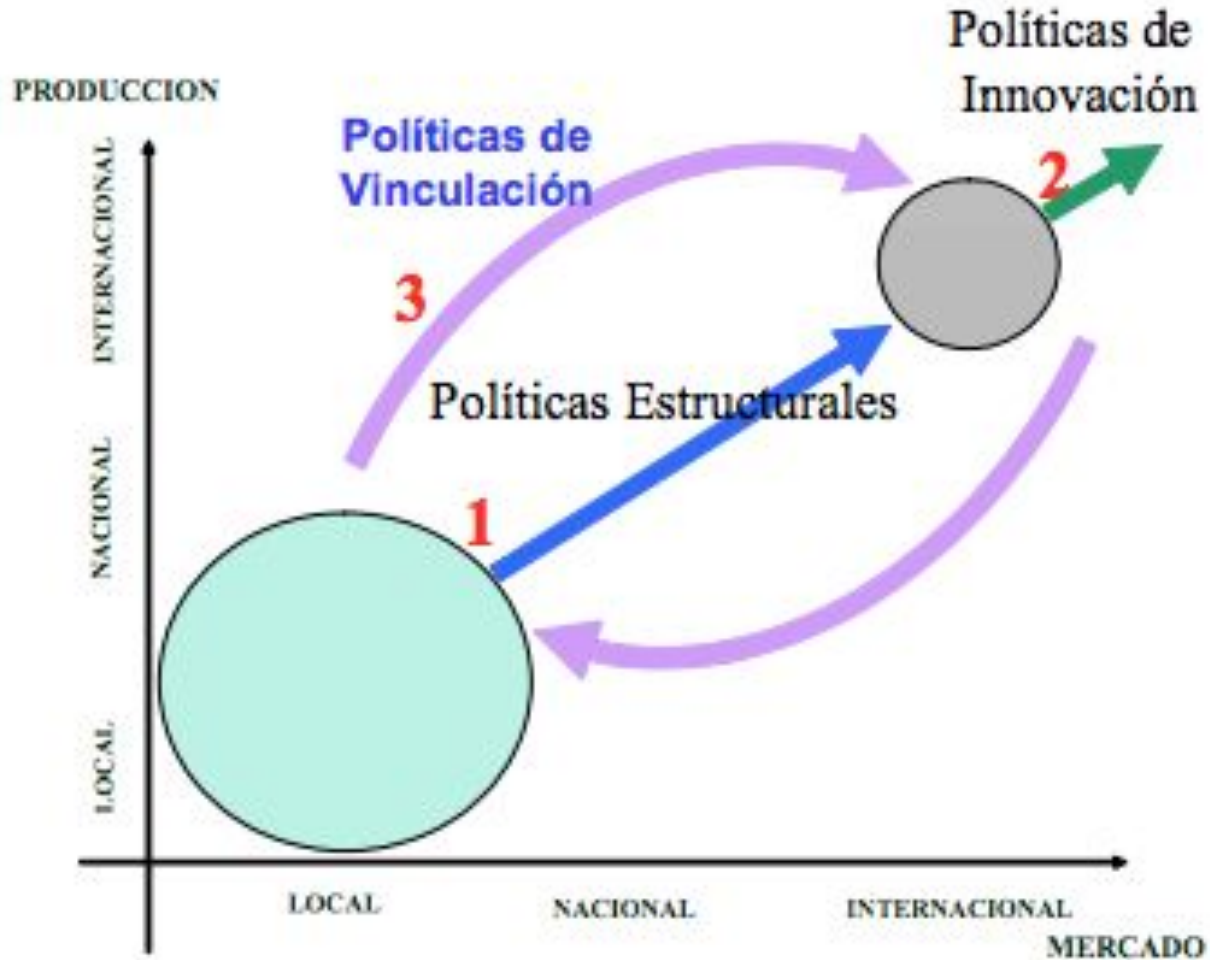
ore 17.30
23 novembre 2018

Presentazione del libro di Patrizio Bianchi
4.0 La nuova rivoluzione industriale
che ripercorre l'evoluzione dell'industria,
le sfide globali targate 4.0
e le nuove frontiere del mondo del lavoro.

Patrizio Bianchi è professore ordinario
di Economia applicata all'Università di Ferrara.

Trentino Sviluppo (Hall)
Via Zeni Fortunato, 8, 38068 Rovereto TN

Evento organizzato da: FONDAZIONE BRUNO KESSLER — TRENTINOSVILUPPO

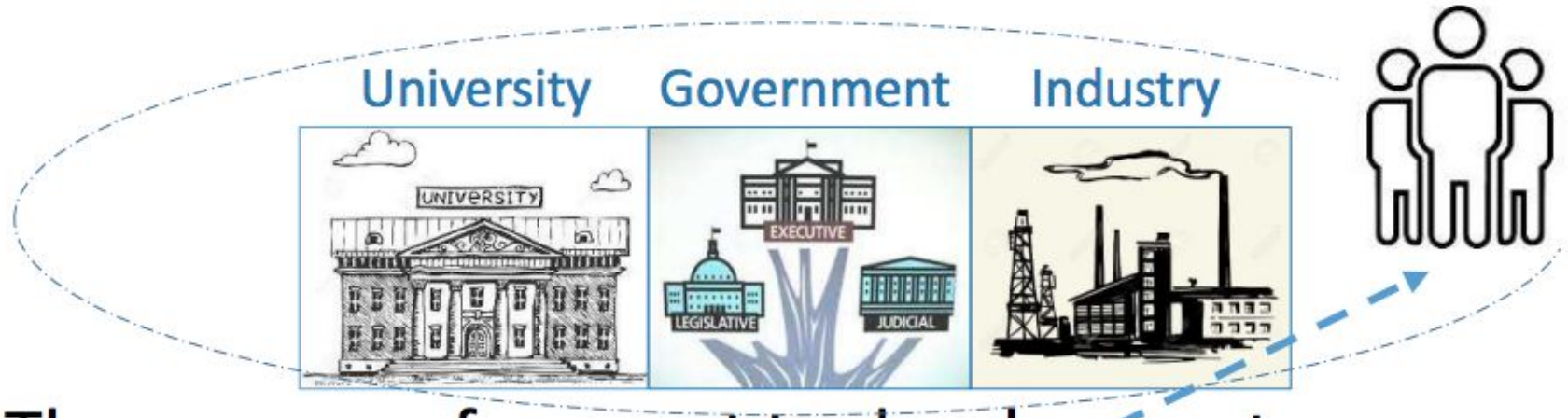

Políticas de
Innovación
PRODUCCION
Políticas de
Vinculación
2
3
Políticas Estructurales
1
INTERNACIONAL
NACIONAL
LOCAL
LOCAL
NACIONAL
INTERNACIONAL
MERCADO

In the 1990s by Etzkowitz (1993) and Etzkowitz and Leydesdorff (1995)

Illustrated the shift from a dominating industry-government dyad in the Industrial Society to a growing triadic relationship between university-industry-government in the Knowledge Society.

Triple Helix: The potential for innovation and economic development in a Knowledge Society lies in a more prominent role for the university and in the hybridisation of elements from university, industry and government to generate new institutional and social formats for the production, transfer and application of knowledge.

The University : Learning, Research, Innovation re-Stage
The Government : Policies, Taxes, etc.
The Industry : production / Services segment.



The essence of concept to development of Max Human Resources & High Rotation of Business Potential

Aziz Nizamani

Triple Helix Systems of innovation

key features of Triple Helix

A set of components, relationships and functions.
Among the components of Triple Helix Systems,
a distinction is made between:

A. R&D and non-R&D innovators.
B. "Single-sphere" and "Multi-sphere" (hybrid) institutions.
C. Individual and Institutional innovators.

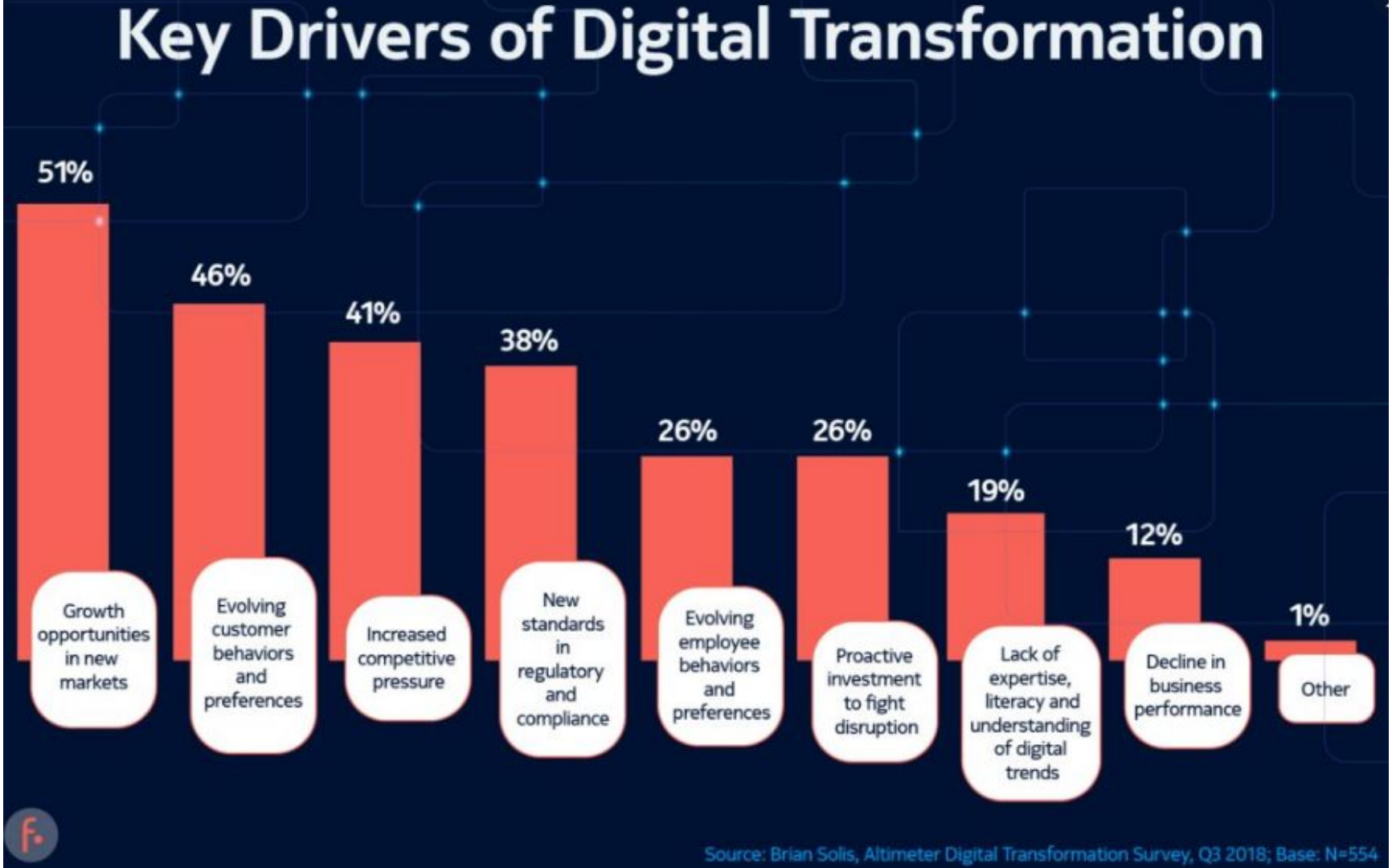
Aziz Nizamani

The interactions into an 'innovation system' format, Defined The relationships between components are synthesized into;

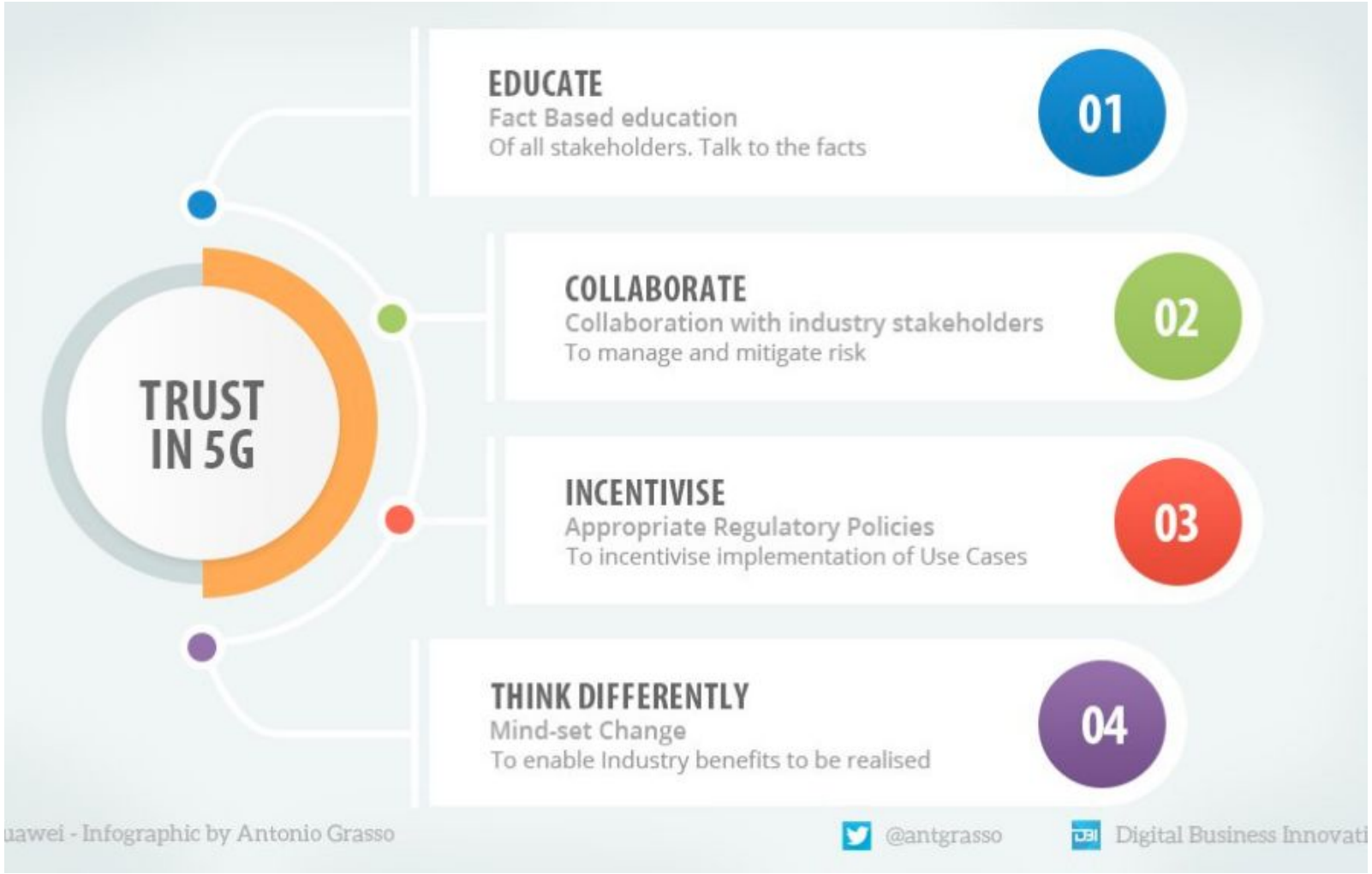
Five main types:

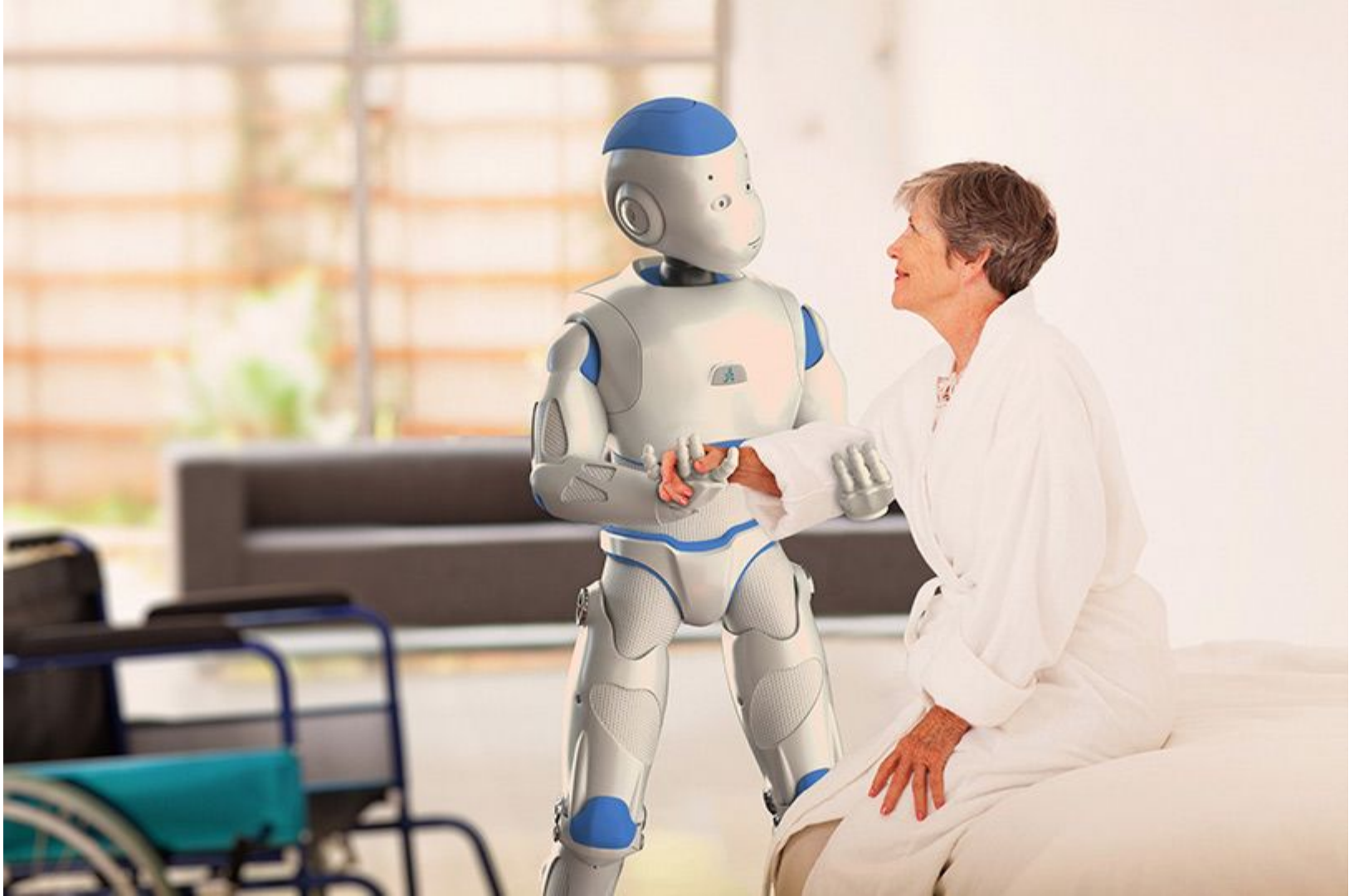
1. Technology transfer
2. Collaboration and conflict moderation
3. Collaborative leadership
4. Substitution
5. Networking

Key Drivers of Digital Transformation

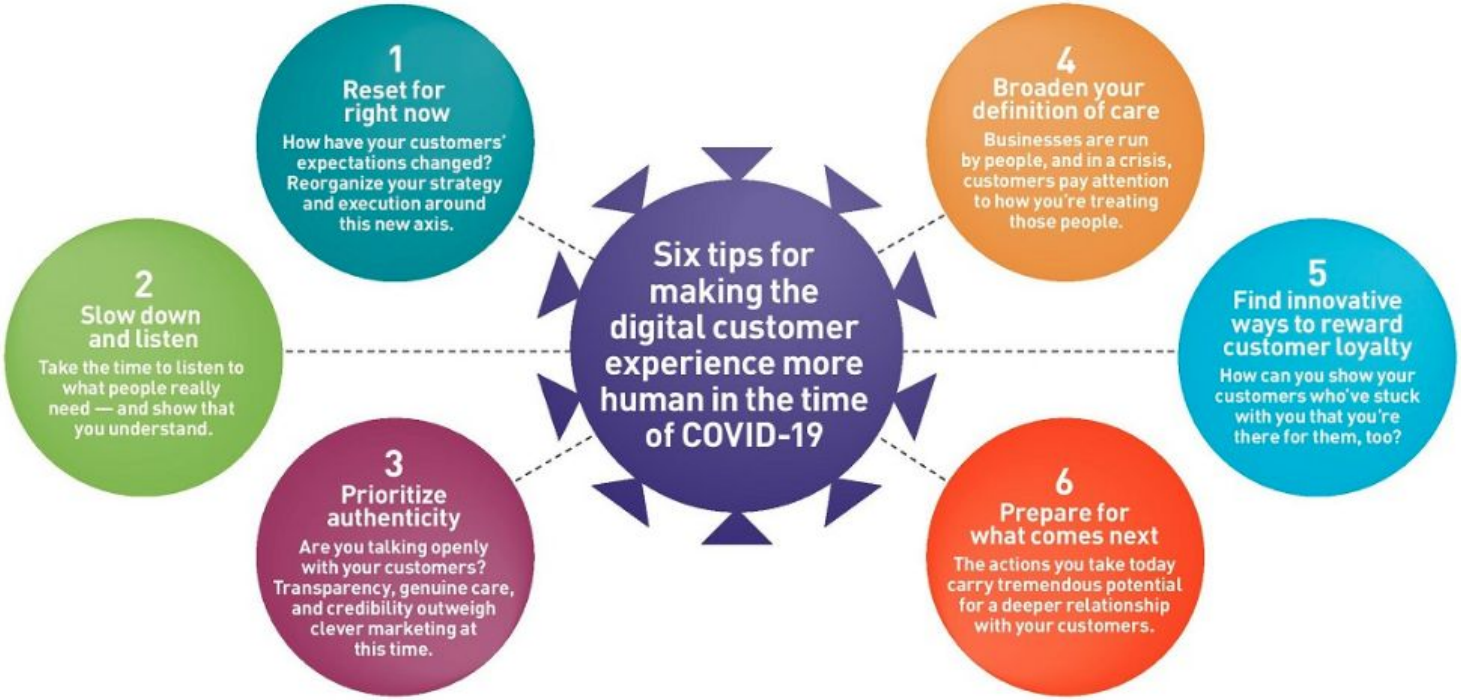


Source: Brian Solis, Altimeter Digital Transformation Survey, Q3 2018; Base: N=554


TRUST IN 5G
EDUCATE
Fact Based education
Of all stakeholders. Talk to the facts
01
COLLABORATE
Collaboration with industry stakeholders
To manage and mitigate risk
02
INCENTIVISE
Appropriate Regulatory Policies
To incentivise implementation of Use Cases
03
THINK DIFFERENTLY
Mind-set Change
To enable Industry benefits to be realised
04
uawei - Infographic by Antonio Grasso
@antgrasso
Digital Business Innovati



@AlbertoMunoz



For further insights: strategy-business.com/customerexperience

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