

The Data as a Platform for Investment and Conflict

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The international community witnessed that 20th and 18th century belonged to oil. Not only because its ability to stop an economy but its ability to create wars and generate wide spread discontent. The arena was Middle East.

We are in 21st century, the century of data. It has similar ability to disrupt an economy and has more ability to create wars.

What if I told you that there is a resource that holds the potential to be even more valuable than the black gold we have been worshipping?

Over the past decade, thought leaders and tech experts everywhere have been trying to tell the world just that by exclaiming that data is the new oil of the 21st century.

What is the data and why data is so important nowadays? Who should own the data ?

What is the Difference between oil and data? What we can do to maximize our benefits from data by applying the ethics ? what is the future within the Artificial intelligence ?

What is the DATA?

When someone says the word “data,” what is the first thing that comes to mind?

Maybe you think of pages and pages of binary code of 1s and 0s, or maybe you just imagine a giant data center hosting millions of servers.

Well, in both cases you are not wrong, but there is more to data than just that. What most people forget to realize is that everything around you involves data. From personal data such as your gender or birthdate to unstructured real time data such as how long you waited at that traffic light today on your way to work, there is data flowing through every moment of your life, and it is being collected at a higher rate

Without a doubt you use one or more of the following terms constantly: data, information, content and knowledge. Moreover, chance is high you have read about or work with other terms, describing various ‘types’ and/or characteristics of data, information and content such as unstructured content and unstructured data, big data and semi-structured information.

Welcome to the terminology chaos of the information age where data, content, information and knowledge are sources of value and business as such, where big data analytics are key and the right data for the right outcomes matter more than ever. Time for an exploration of what all these terms stand for, what they mean for your business, today’s economy, transformation, innovation and obviously what matters most: how it can all lead to value for people, stakeholders, workers, consumers, you and us.

“Personal data” it means any information that can be used to identify an individual, whether directly or indirectly (e.g. name, date of birth, social security number, photograph, e-mail address, computer ID).

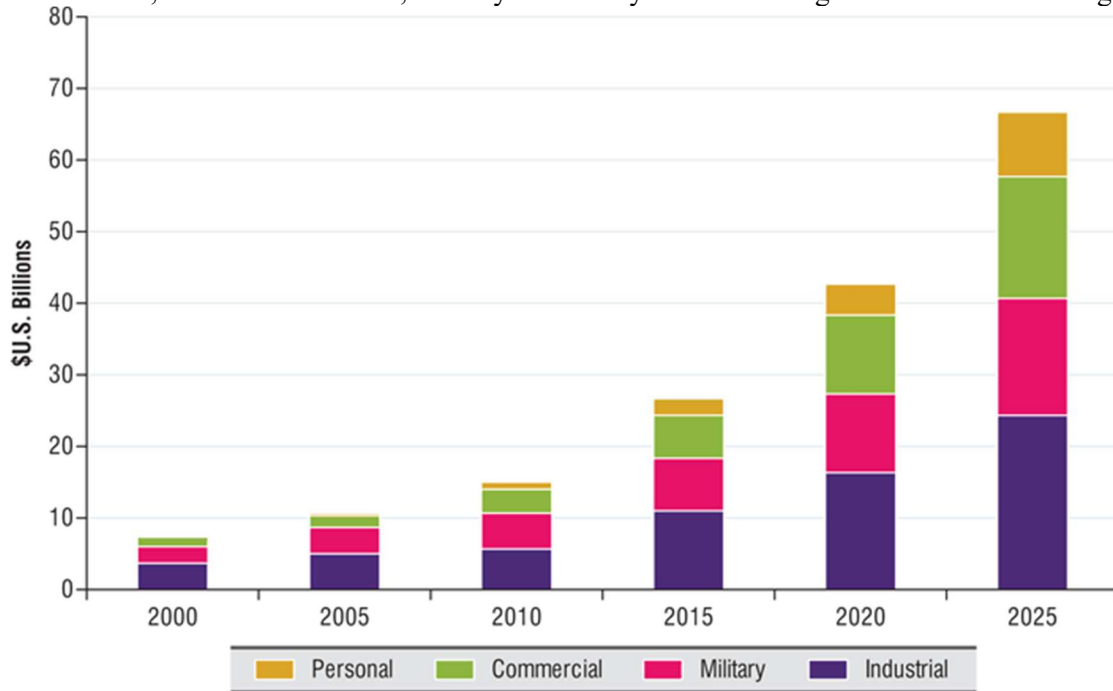
The scope of personal data is very wide. It includes directly identifying information such as name, picture, social security number, etc. It also includes indirectly identifying information, such as bank account number, network ID, etc.).

But we can focus on “Personal data processing” which it means any operation or set of operations performed upon personal data, whatever method is used. In other words, any use of personal data should be considered as a personal data processing. A personal data processing

can be computerized (e.g. video surveillance, files transfers over the Internet, electronic databases, etc.) or manual (e.g. paper files).

This is information age, and everything is data. With the coming of search giants like Google and Yahoo, it became a part of life, blogs chatrooms, information type websites like Wikipedia, changed the way we dealt we data.

And with networking sites like Orkut, YouTube and Facebook, it was enjoined with our social life. It became a part of us. Since then it has only evolved. Data was seen more than bits of information, and with the volume, velocity and variety it was created gave birth to Data mining.



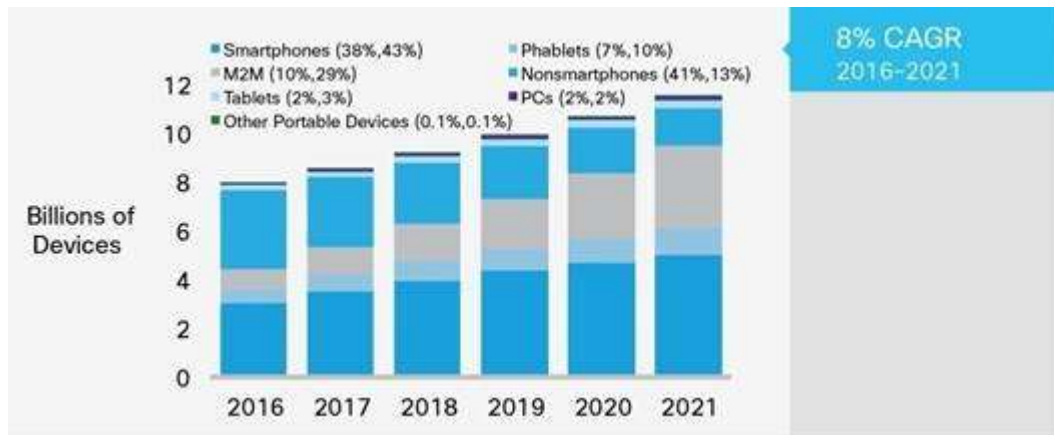
Source: Alison Sander and Meldon Wolfgang, "The Rise of Robotics," Boston Consulting Group, Aug. 27, 2014, <http://tinyurl.com/mo6r8pm>

On parallel sides, AI was also developing, were machines will have such algorithms that they will be able to take human like decisions.

AI mixed with data mining gave way to behavioral analysis of people, Amazon like ecommerce websites, Netflix and others, started using it to target audience for themselves and audience was analyzed on their pattern of search results, to be shown recommendations.

Cookies what were earlier useless junks became mines for Google, search etc. This isn't used only for targeted advertisements but also goes into our newsfeeds, mobile videos recommendations. It's almost everywhere in our virtual space.

In the next stage companies like Tesla are taking internet of things to the next level, already there are talks about driverless cars, self-evolving operating systems that will



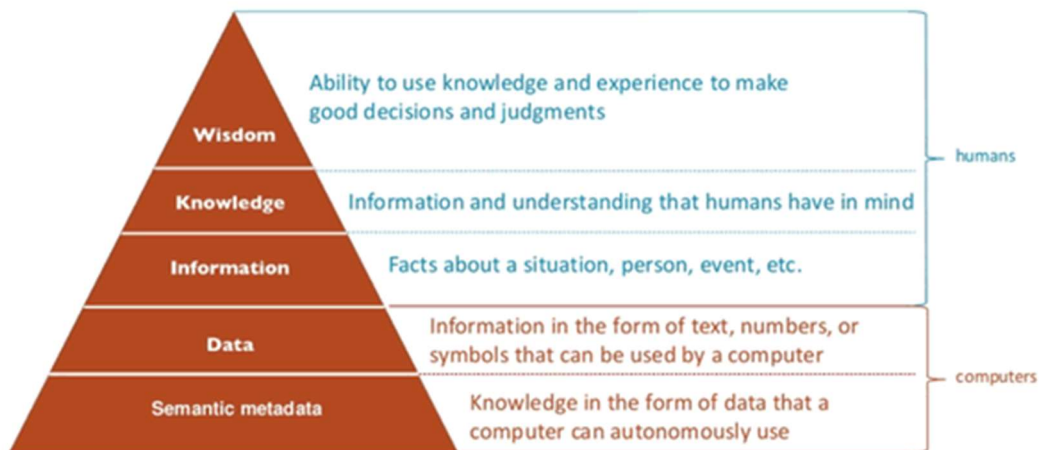
learn on its own.

This has also come as challenge in the form of right to privacy issues, data theft as happens in banking frauds, leaks of personal data, behavioral mapping and mass surveillance. Also some people have started calling it an age of data colonization owing to the extent of usage.

According to the International Data Corporation, the estimated amount of data created every year will reach 180 zettabytes by the year 2025 (that's 1.8×10^{14} gigabytes).

DIKW paradigm today

Adding understandable data to the stack



Epistemica made a [simple SideShare on the DIKW Paradigm Today](#)

Why data is so important nowadays?

Since the turning of the 21st century, Data has become as important as oil because both have been the significant drivers of economic & so social change. Data along with Artificial Intelligence have helped Google, Facebook & Alibaba get the data to be used to fulfil the needs of the customers through monitoring their choices & opinions.

We're in a digital economy where data is more valuable than ever. It's the key to the smooth functionality of everything from the government to local companies. Without it, progress would halt.

It affects most people, governments, infrastructure and others. At present its base is more than that of oil industry. Data industry has vast growth in 21st century as was in the case of oil in the 19th and 20th century.

In this era of digital economy and society progress in the government department and local companies will be stopped. Society is also in a way connected by data industry like Facebook, WhatsApp, YouTube. Thus, making the world a global village.

It had benefited the user and had larger impact on life. All are benefitted from Google search engine, Facebook, Amazon etc. It is a lucrative business sector. Alphabet, Amazon, Apple and Facebook accounts for 25 billions of income per year. In a way we can say that it's going to be a more profitable industry in upcoming years as compared to oil industry, as there is limited oil but it's not limited in case of data.

20th century belonged to oil. Not because its ability to stop an economy but its ability to create wars and generate wide spread discontent. The arena was Middle East. 21st one can be the century of data. It has similar ability to disrupt an economy and has more ability to create wars:

1. Majority of website that we visit collects some amount of transactional data and this is important for businesses to optimize their operation. Data's analysis produces patterns and correlations which can be used to get competitive advantage in pricing, marketing to get increased revenue.

2. Since everything is being digitized and payments are done online, governments have more amount of personal data with them. They can use this to study consumer behavior and form more optimal economic policies.

3. While making business models companies need to understand wider market complications and to ease this puzzle web data, sensor data, and survey data can be used for saving millions of dollars.

If digitization is 4th industrial revolution then data is its fuel, thus, proper data analysis can become foundation of best policy practices from governments to businesses.

THE data can do now SOME IMPACTS SUCH AS:

- a) More digitization of world-more every sector of economy will depend on data.
- b) May fuel data war-cyberattacks-disruption of basic services like health, transportation, electricity.
- c) China, India, and Africa may become new intrigues centers.
- d) The future is of AI-which is totally depend on data
- e) AI may be misused.

WHO SHOULD OWN THE DATA?

We are all aware of the major oil corporations that hold an oligopoly on the oil industry like Exxon Mobil and Shell.

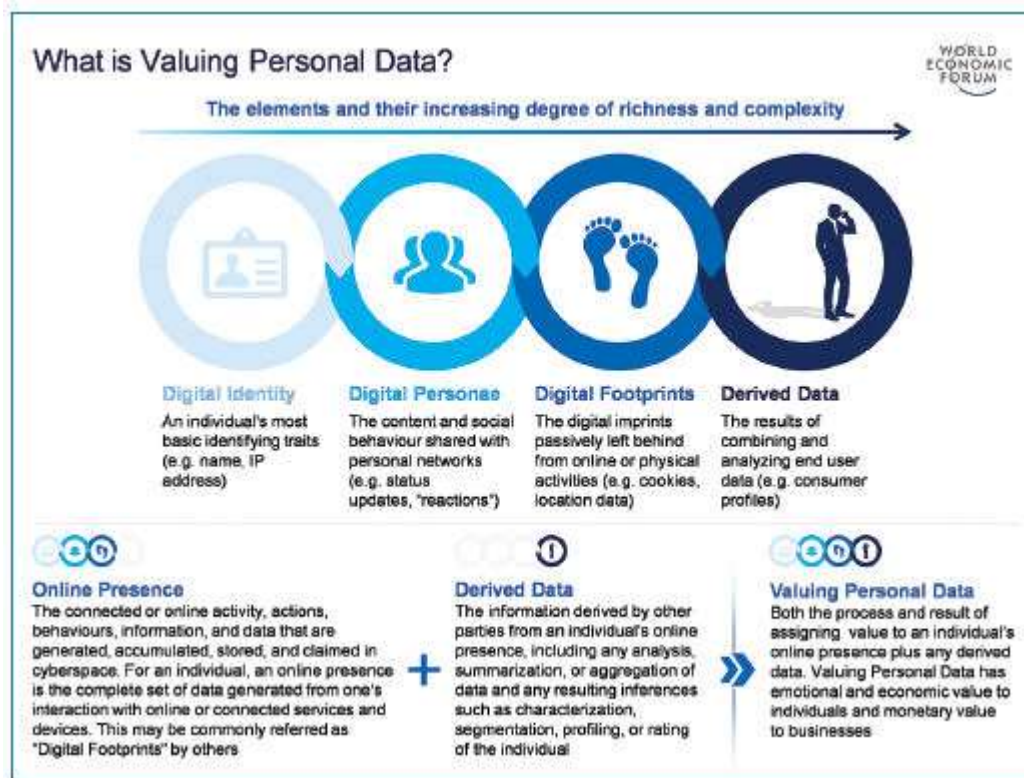
Many analysts and critics are worried that the digital resource of data will follow in the same footsteps as the five largest tech conglomerates – Apple, Amazon, Facebook, Microsoft, and Google – which are trying to be the sole players in the growing data economy.

This is where the key difference lies between oil and data arises. Oil is something that companies have to go out and find, while data is something that we are openly handing over to these giant tech companies for free.

Companies such as Google or Facebook allow us to use there platforms freely in exchange for collecting data about every aspect of our lives and our behaviors which is leading to more power and profits to these major companies.

While anti-trust laws were able to limit the power of oil corporations in the past, the digital resource of data and the use of these tech company platforms makes it much harder to regulate the control over the “new oil.” While there are no current solutions to limit the power of the “big five,” many of us will continue to hand over data for them

to further grow their power and profits. Only the future will tell where this new resource will take us, and who will control it in the source of it in the end.



The 21st century has just started to unfold. A series of events like global focus towards renewable energy and increasing digitalization endorsed by governments supports the view that data is the new oil. However, it has lot of feathers in, like cyber security and data privacy. The data highways can be said that they can pass through every house, but it has a strong tendency for data colonialism.

It can't be denied that data is oil today, and just like oil is essential but it's over exploitation has its consequences likewise unguarded and unprotected data has its pitfalls. Therefore, stricter norms must be in place to avoid all these, and at the same time we must start pondering for future issues like job losses due to AI, and Stephen Hawking's warning that out of control such developments may pose threat to human existence itself.

1. It is being monetized e.g. google and Facebook advertisements covering about 80% online ads in US.
2. It is generated every second from everyone who has a net connection.
3. There is no control of authorities about the flow of data from boundaries.
4. Potential of data to disrupt economies like the WannaCry incident.
5. Coming technologies like Big Data Artificial Intelligence have more potential to take over the world.

Extracting information

Data-driven deals, selected

	Target company (Date)	Value of deal, \$bn	Business
facebook	Instagram (2012)	1.0	Photo sharing
	WhatsApp (2014)	22.0	Text/photo messaging
Alphabet	Waze (2013)	1.2	Mapping and navigation
IBM	The Weather Company (2015)	2.0	Meteorology
	Truven Health Analytics (2016)	2.6	Health care
intel	Mobileye (2017)	15.3	Self-driving cars
Microsoft	SwiftKey (2016)	0.25	Keyboard/artificial intelligence
	LinkedIn (2016)	26.2	Business networking
ORACLE	BlueKai (2014)	0.4	Cloud data platform
	Datalogix (2014)	1.0	Marketing

Source: Company reports, estimates

Economist.com

WHAT IS Difference between oil and data?

The oil made transportation and all industries dependent on itself-brought industrialization. The oil fueled war among countries like World war II, Nigeria war 1967, Saddam Hussain war, Sudan and South Sudan war etc.

The oil brought Middle East to the center of political intrigues. And Middle Eastern countries which became rich-radical factions, got indirect funding-terrorism increased.

The conflict over the oil launched of rivalry between US and Russia intensified, as Interference by US and Russia in internal matters of other countries.

When oil going to be exhausted-data is multiplying every second. Then oil led to physical wars-data will led to disruption of services war.

The capture on oil field meant to capture a vital resource, capture of data meant to get hold on intellectual powers of rival country. But oil still is continuing to dominate world politics.

Both of oil and data are engines of economic growth. Oil helped the Middle-East become powerful while Data is making China, US & India as growing power.

Oil led to Second World War & also led to the disruption in the relation between Iran-Iraq, Sudan & South Sudan. Data may also bring negative consequences in the form of Data Domination and Data Colonization by some countries.

One of the biggest problems of the world-Terrorism has root in the Oil. The cyber threat & misuse of Data has led to the big problem of Cyber Attacks like ransomware attack which held recently and left the economic situation of some countries paralyzed.

From 7.5 billion people living on Earth only 3.58 billion have internet access. There is need to use Data securely and efficiently so that it does not create the serious situations which oil brought.

Moreover, directly or indirectly oil is used by anyone, therefore, the oil dependence.

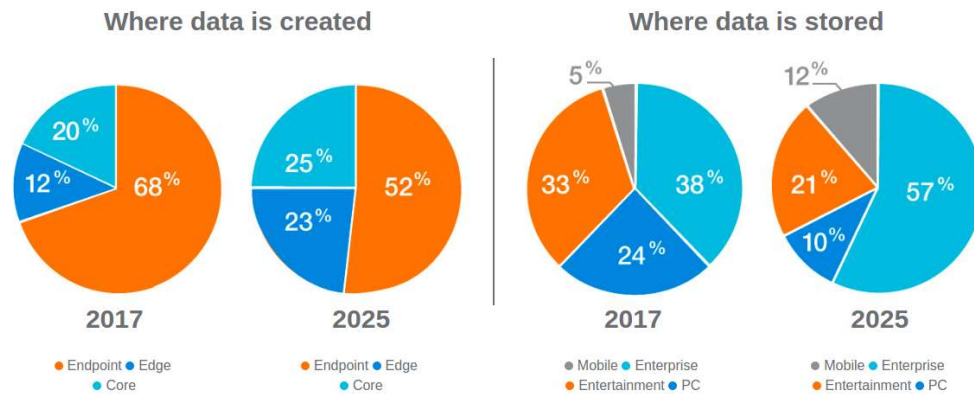
But there is a concentration of oil reserves in one region unlike data which is widely spread, so less chance of oligopoly.

THE ETHICS OF DATA AND FUTURE

Data and information are crucial assets to create value on various possible levels. They need to be protected as we would do with all important assets, they need to be treated with care, they derive their meaning from their purpose and they are becoming economic goods as such.

"Privacy and data protection are part of the solution, not the problem. For the time being, technology is controlled by humans. It is not easy to classify neatly these potential developments as good or bad, desirable or harmful, advantageous or detrimental, even less so when a number of potential trends have to be seen in context. Policy makers, technology developers, business developers and all of us must seriously consider if and how we want to influence the development of technology and its application. But equally important is that we consider urgently the ethics and the place for human dignity in the technologies of the future."¹

Data protection principles have proven capable of safeguarding individuals and their privacy from the risks of irresponsible data processing. But today's trends may require a completely fresh approach.



IT IS POSED THE NECESSARY OF THE EXTENSION the application of the principles such as fairness and legitimacy are sufficient. The data protection community can play a new role using existing tools like prior checks and authorizations - because no other bodies are equipped to scrutinize such data processing. With technology, global innovation and human connectedness developing at breakneck speed, we have an opportunity to attract attention, to trigger interest and to build a consensus.

With this opinion we hope to provide a framework for a wider and deeper discussion on how WE can ensure the integrity of its values at the same time as it embraces the benefits of the new technologies.

Here is a truth: consumers might feel empowered but at the same time they don't. Distrust is high. And if you believe that consumers really like to share their data because they think it will make everything better and they "love" you, think again: many have simply given up when it boils down to their data, let alone, their privacy. They feel powerless, not empowered, because they know, they really don't know what happens with their data and they can't control it.

Data protection and privacy legislation varies from country to country. In Europe, the processing of personal data is governed by European Data Protection Directive (95/46/EC) that has been transcribed into the national laws of the European Union member states.²

In 2016 the directive has been replaced by the General Data Protection Regulation (GDPR) that will become applicable on 25th May 2018 and supersede all EU national laws. Transfers of personal data from a European Union country to a third country

¹ /https://www.i-scoop.eu/the-ethics-of-data-human-truths-and-dignity-in-the-digital-age

² [http://www.ey.com/Publication/vwLUAssets/ey-law-eu-data-protection-regulation/\\$File/ey-law-eu-data-protection-regulation.pdf](http://www.ey.com/Publication/vwLUAssets/ey-law-eu-data-protection-regulation/$File/ey-law-eu-data-protection-regulation.pdf)



are regulated.

To get to this next information age stage in a de facto hybrid reality, organizations need to step up their pace in order to:

1. Get the essence of their information management strategy right, starting with the very basics;
2. Cherish information and data as assets, just as customer experience and employee engagement are intangible assets;
3. Look at how and where they can go turn – digital – information into business value (savings, revenues, better customer experience, innovative models and offerings); and
4. Rethink business approaches and see where and how to reach the

level where information becomes a source of revenue as such or creates new information assets through new technologies and smart information management approaches;

5. Look at how information can help in bridging digital and physical worlds as the lines blur from various perspectives (including the customer perspective) and the days of one-size-fits-all in ECM are over and done with;

The following steps can be taken in this regard:

- (i) Data Protection Law at both national & international level can help to curb Data Domination.
- (ii) Data is to be treated as the personal property of the individual & Data Use Consent framework should be enacted. Data must be used after the consent of the person only.
- (iii) Competition in the market is always favorable. Recently Google was fined to use its dominance in the data market. Such steps can be taken judiciously.
- (iv) Big Data needs to be protected with the help of Cloud Computing & AI. It is very true that the companies like Google, Facebook, Big Basket have provided facilities & entertainment to the people. These companies need to use data of the people to improve their services, but a law is urgently needed seeing the large coverage of Smartphone (2.5 billion out of 5 billion in the world)

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¹ [http://www.ey.com/Publication/vwLUAssets/ey-law-eu-data-protection-regulation/\\$File/ey-law-eu-data-protection-regulation.pdf](http://www.ey.com/Publication/vwLUAssets/ey-law-eu-data-protection-regulation/$File/ey-law-eu-data-protection-regulation.pdf)