Big Data for Migrants and Refugees: A Case Study of The Iraqi Ministry of Displaced

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Abstract:
Migration and refugee problems are among the most draining and vexing human problems of our century. These crises have reached proportions not seen since World War II with continued popular uprisings, civil war, and terrorist incidents in neighboring countries, particularly in Syria, Afghanistan, Yemen, Venezuela, and Myanmar. According to the reports of the United Nations, the total number of international migrants has reached nearly 300 million. As for Iraq, the number of migrants (outside) and the number of displaced persons (while internally displaced) has reached 5 million, and they have been subjected to pressures to migrate. to send. There are many reasons why the services provided are not at the required level.
However, lack of data appears to be an important reason. In order to increase the quality and delivery of service at the required level in the face of the ongoing migrant crises, it is necessary for governments and NGOs, especially host countries, to review people and data and find ways to obtain higher quality data. In addition, it is critical that the data obtained be adequate and reliable in order to prevent negative outcomes such as smuggling of migrants, deaths of those using the sea during migration, and abuse at the points they reach. At this point, the concept of big data is emerging as a concept in the field of migration, as it is in many other fields. The article discusses why governments (in general) and the Iraqi government (in particular) are using current technologies and big data to identify and assist migrants in need of international protection. The advantages and opportunities of big data have been pointed out in the international arena against the protection of migrants' right to life, the prohibition of torture, inhuman and degrading treatment, and the prohibition of slavery and forced labour. However, the article also examines the drawbacks, limitations and risks arising from the unfettered use of new technologies, particularly with regard to protecting migrants' right to privacy and data protection, with the help of detailed literature.
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1. Introduction

It is estimated thatthere are at least two million Iraqi refugees in the region; And two million displacedpeople inside Iraqi territory, despite the recognition that theseconclusions are subject

to interpretation and discussion. While the number of refugees is often used as an indicator of progress or the absence of any progress; Dealing with figures for the displaced in Iraq becomes more controversial. What is clear, however, is that the current displacement is the largest displacement crisis the Middle East has known since 1948. The generally accepted figures include more than a million Iraqis in Syria, and between 450,000 and 500,000 Iraqis in Jordan; 200,000 Iraqis in the Gulf states, 50,000 Iraqis in Lebanon, between 40,000 and 60,000 Iraqis in Egypt, and 60,000 Iraqis in the Islamic Republic of Iran;And 10 thousand Iraqis in Turkey1. The High Commission (hereinafter referred to as the High Commissioner) has registered; Of this total, more than2 227,500 asylum cases, or nearly 10 percent of the estimated percentage of the Iraqi populationHundreds of thousands of Iraqis have emigrated from their countrybefore 2003, either to escape solutionin the fields of economy, health and education3.

Registered numbers (as of (31) December (2007) - UNHCR had registered، more than 227,500 - Iraqi refugees in the area) .

	The	Recorded	registered	Mainly	Number of	Average

[1]These figures are derived from government estimates and are verified whenever possible with independent studies. Given the urban affiliation of the Iraqi refugees, it is very difficult to obtain accurate figures. For example, on October 1, 2007, the Suez Foreign Ministry informed the United Nations General Assembly that there were _ "1.6 million Iraqi refugees in Syria." _ While other estimates indicate much lower numbers.

[2]The figures recorded by the United Nations High Commissioner for Refugees include 150,000 Iraqis in Syria, 52,000 in Jordan, (10,000 in Lebanon), and (10,500 in Egypt). In addition. Transferred(54,000 Iraqis to Iran) before 2003 _ In addition to registering 3,000 Iraqi newcomers...

[3] Estimates issued by the United Nations High Commissioner for Refugees at the beginning of 2003 indicated that there were more than 30,000 Iraqis in Syria and more than 250,000 in Jordan. And Ian Gulf War of 1991 - Jordan was the only country that accepted hosting the Iraqis. It is believed that the number of refugees in Jordan has not decreased since then to be less than 130,000 Iraqis. According to a recent study conducted by the Danish Refugee Council and the United Nations High Commissioner for Refugees, the percentage of asylum seekers who came to Lebanon before 2003 was equivalent to 30 percent. According to another report on refugees in Syria prepared by the 'Foundation. Brookings، commissioned by UNHCR, took place in the 70's and 80's and it was a lot. Among them were opponents of Saddam Hussein's regime, while the rest belonged to the Shiites of the south who fled persecution. Following the Khaij war and the repression committed by the Iraqi government against the Shiites in the south, the Syrian-Iraqi borders remained closed throughout the nineties and were only opened between 2001 and 2002. As for the second wave of Iraqi displacement to Syria - it began in 2003 as a result of the American invasion. More information can be found at the following address:
(http://www.brookings.edu/papers/2007/0611humanrights_al-khalidi.aspx (last visited February 20, 2008)

	estimated number of the Iraqi population	total	files	requests from women	registered in 2007	file size
Syria	Between 1 and 1.5 million	050 147	39 096	21.6 percent	106 528	3,5
Jordan	Between 450 thousand and 500 thousand	229 51	24 077	26.7 percent	31 210	2
Lebanon	50 thousand	721 9	5 306	6 percent	6 432	2
Turkey	Between 5 thousand and 10 thousand	4 276	2 157	21.3 percent	3 091	2
Egypt	Between 20 thousand and 40 thousand	10 132	3 959	27.2 percent	8 169	2,5
Iran	60 thousand or more	3 673		9 percent	305 3	
*Gulf Cooperation Council	200 thousand or more	1 816	767			2,5

*The United Arab Emirates; Bahrain, Oman, Qatar, and Kuwait; and Saudi Arabia.

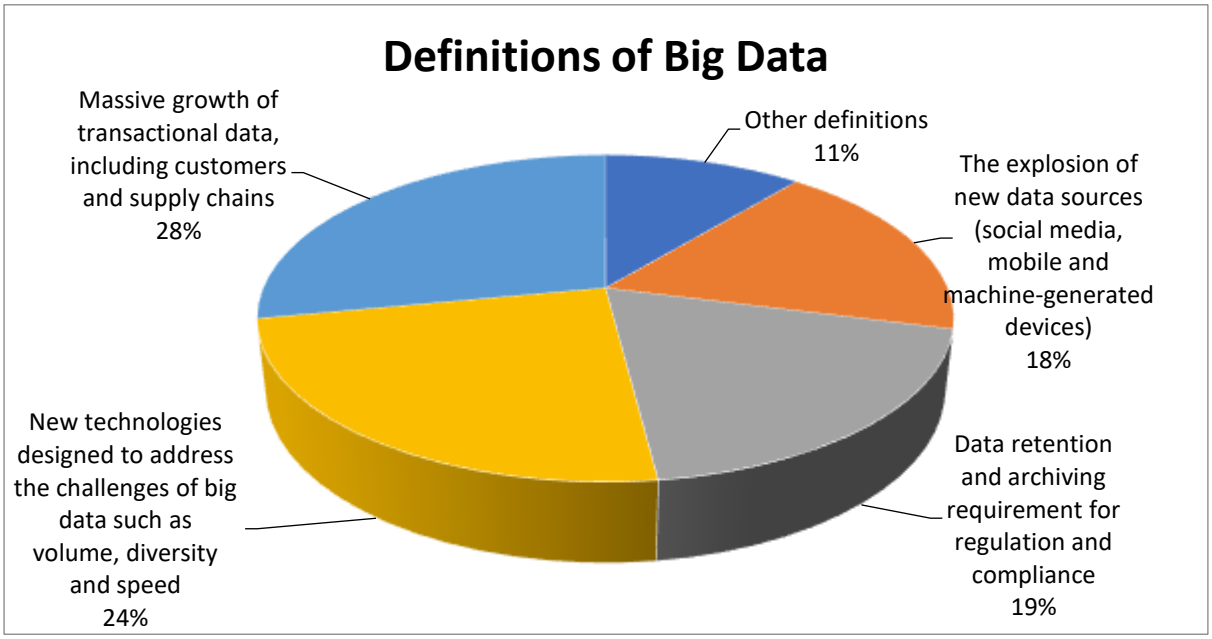
2. What is Big Data?

Big data can be defined as a concept used to express the collection, storage and processing of a very large data set to find repetitive patterns. However, it has been pointed out that there is no universally accepted definition of the phenomenon of "big data" in the literature. Although big data" seems to have entered our lives since the beginning of the 2000s, when Diebold (2012) combined the concept of big data with the phenomenon of big data, big data was mentioned in Silicon Graphics in the mid-1990s and big data was mentioned in the mid-1990s. The definition is to use groups to manipulate and analyze the Determinant like this. In 2010, Apache Hadoop defined big data as "datasets that cannot be captured, managed, and processed by general computers within an acceptable range". In addition, Matter (2013) redefined big data and claimed that big data can answer all problems. Big data, on the other hand, is the storage,

access, processing, analysis and interpretation of large, unstructured/fluid volume, high-speed and wide variety of data that emerged as a result of developments in information and communication technologies. Its processing capacity exceeds traditional database management systems; It is defined as the process of extracting the necessary information from the collected data" (Dülger, 2016: 503-504).

HoweverAccording to an online statistical study, it included 154 global managers in April 2012/ Gandomi and Haider (2014) provide the following definitions of big data:

Figure 1: Big data definitions



Source: Gandomi and Haider (2014: 139).

On the other hand, it is necessary to understand and adopt the distinctive features of big data as well as its definition. There are many studies in the literature on the distinctive features of big data. The 3Vs model emerged as a common framework for describing big data. The 3V paradigm consists of size, variety, and speed (Chen et al., 2012; Laney 2001; Zikopoulos et al., 2012).

Size: Size is expressed by the increasing scale of data as blocks of data are created and collected. Terabyte The data range is up to petabytes.

Speed: big data, especially data collection and analysis, etc. I mean timing.

Big data needs to be done quickly and in a timely manner to maximize business value. Therefore, data must be collected, stored, processed and analyzed in relatively short windows.

Variety: Displays different types of data, including semi-structured and unstructured data such as audio, video, web page, and text, as well as traditional structured data. In short, it contains data from various sources and formats.

In addition to 3Vs, other dimensions of big data are also specified. These includes; Verasity, variability and complexity (variability and complexity) and value (value)(Gandumi and Haider, 2014).

Verasity: IBM has corrected the unreliability of some data sources.
He invented this model as the fourth V representing.

Variability and complexity: Big data has two additional size has been introduced.And there is a change in the flow rates, according to what the statistics indicatewhile; Complexity is the fact that big data is generated from countless sources.

Value: Described as large value but very low intensity.
After the data is filtered from its specified components, the production of big data andWhether the data obtained in the processing layers provides added valuecan be used to demonstrate

Along with these, the concept of big data has an important place in ethical theory. Zwitter (2014) states that at the heart of big data there are ethically four characteristics:
I. The fact that there is faster data generation than ever before in data history; He stated that although there was a total of 5 billion gigabytes of data recorded until 2003, 5 billion gigabytes every two days in 2011, 5 billion gigabytes every 10 minutes in 2013, and 5 billion gigabytes every 10 seconds in 2015.
ii. Big data is organic: By collecting everything that is available digitally, it represents the reality of big data digitally much more naturally than statistical data.
iii. Big data is potentially global: With truly large datasets, access becomes global, not just an organic representation of reality.
iv. Correlation against causality exists: Big data,
It is built on correlational relationships rather than causality.

Considering all these features of big data, that it doesn't just mean a lot of data and has great potential, we can understand. The fact that the produced data reaches incredible dimensions is only volumetric. an increase, but also enrichment in data speed and diversity. appears to have come with it. However, the subject of big data is human. It is inevitable that some problems will arise.

3. Challenges of using big data

The saying that unused big data is worthless is a very common rhetoric.
Potential value only unlocks when leveraged to maintain decision making he describesGandomi and Haider (2014). achieve evidence-based decision making organizations must have high-volume, fast-moving and meaningful data.

It needs processes that transform it into understandings.The overall process of extracting insights from big data can be broken down into five stages (Labrinidis and Jagadish, 2012). These five stages constitute two main sub-processes; datamanagement and analytics. Data management, for acquiring, storing and analyzing data.

It includes processes and supporting technologies to prepare On the other hand, analyticsrefers to the techniques used to derive analysis from big data. Like this, big data analytics, a subprocess in the overall process of extracting insights from big datacan be seen as.

big datathe more you know about events, the more. If can help us gain new insights and predict what will happen in the future in a reliable (arguable) way. In this context . Big data can be used in many fields. Of course, the important thing here is to get the data right.way to use. Now with photos, texts, sounds, videos and many factsable to use data in ways that were not possible even a few years ago.has arrived. We can hypothesize that this also marks the beginning of a revolutionary era in the world.

Today, especially the use of the internet by many people has revealed the necessity of using big data. The services received, the tracking of the services offered over the internet, application software providing fast and easy access, customer satisfaction after sales in the service area and similar situations have created a usage condition especially. The increase in the size of these stored data is one of the reasons for the importance of big data. In fact, the important thing here

is not how much data you have, but what you can do with the data. Both governments, non-governmental organizations and private sector elements can make better decisions thanks to real data-based analysis. In short, every industry benefits from big data at its own scale. We can exemplify them as follows:

Big data can be used especially in the development of medicine, in the early diagnosis of the disease and in the analysis that can help the industry in the development of new drugs. Since our country is a country of intense earthquakes, it can be used to analyze earthquake data. Analysis of human behavior in the light of past earthquakes can evaluate what survivors have faced.

It is of vital importance for companies that are trying to meet human needs in the modernizing age. Thanks to the data obtained, it can collect big data about customers, material suppliers, all kinds of transactions within the company and can benefit from producing meaningful reports.

Thanks to social media shares such as Facebook, Twitter and Instagram, billions of data are obtained every day. In the light of these data, human psychology and values; It is possible to measure the shares made on the basis of the time spent.

Banks are institutions that everyone uses and especially evaluates online shopping. In the light of the data they obtain from their customers, banks can evaluate them in order to provide better quality service to their customers.

While all these are taking place, the negativities caused by big data occur. When big data is mentioned (especially time hospitals, banks, social media data), the concept of privacy emerges. zwitter (2014:5) explains this situation as follows; "The nature of big data today is one that goes beyond the privacy of the individual and even raises specific ethical problems regarding the collection and monitoring of group and network data about the privacy of communities." Along with concerns about personal privacy, it also raises new problems with identity. Davis (2012) mentioned the following; Who owns personal data? and how does the availability and availability of more data affect personal reputation? raises questions or problems. Davis (2012) also noted: Identity: What is the relationship between offline identity and online identity? Privacy: Who controls/should control access to data? Ownership: Who owns the data, what are

the transferable rights and obligations of the people who produce and use this data? Reputation: How can it be determined which data is reliable?

The use of big data has advantages as well as concerns. Picciano (2014) presents this to us in three categories. First, for big data and learning analytics applications to work well, data must be accurate and timely. The second and perhaps most serious concern has been highlighted as the need to consider data privacy, since data privacy encompasses a lot of information about our personal lives. This can be considered as a violation of rights in terms of data profiling and recording individual behavior. The third element is enough people trained to use big data and analytics appropriately.

not yet available. Necessary expertise and human resources are needed to develop databases of big data.

Considering social media platforms in particular, as we mentioned before, a large number of people interact at the same time or at different times, causing the formation of big data. Considering the social media platforms, which we all first think about before using social media or are nervous while answering the questions we come across, as we have mentioned before, a large number of people interact at the same time or at different times, causing the formation of big data. We are all nervous when answering the first questions we think or come across before using social media.

These ethical issues do not appear only on social media. Although one or more of them are seen as a problem in many areas, they can be considered as an obstacle in obtaining big data correctly. Although there are many problems that arise with the storage and processing of this data, the most important problems are ethical issues and privacy emphasis. In addition, it is possible to say that the phenomenon of big data is one of the most popular fields in terms of communication technologies and it is a new research field for many segments. Because big data can be used functionally in many fields from economy to politics, from education to trade, thanks to the above-mentioned qualified analyzes.

4. Migrant and Refugee Data / A Closer Look

Concepts such as immigration, immigrant, refugee, and asylum seeker are concepts that have come across a lot lately and that everyone probably attributes their own meaning. There are no

generally accepted concepts in the international literature or academic circles. However, he is considered a refugee according to the 1951 Geneva Convention (1951:3); A person who is outside the country of his/her nationality for fear of being persecuted because of his/her race, religion, nationality, membership of a certain social group or political opinion and who is unable or unwilling to benefit from the protection of that country because of this fear. , or a person who has no nationality and is consequently outside the country of his/her former residence for these events and is unable or unwilling to return there because of the fear involved.

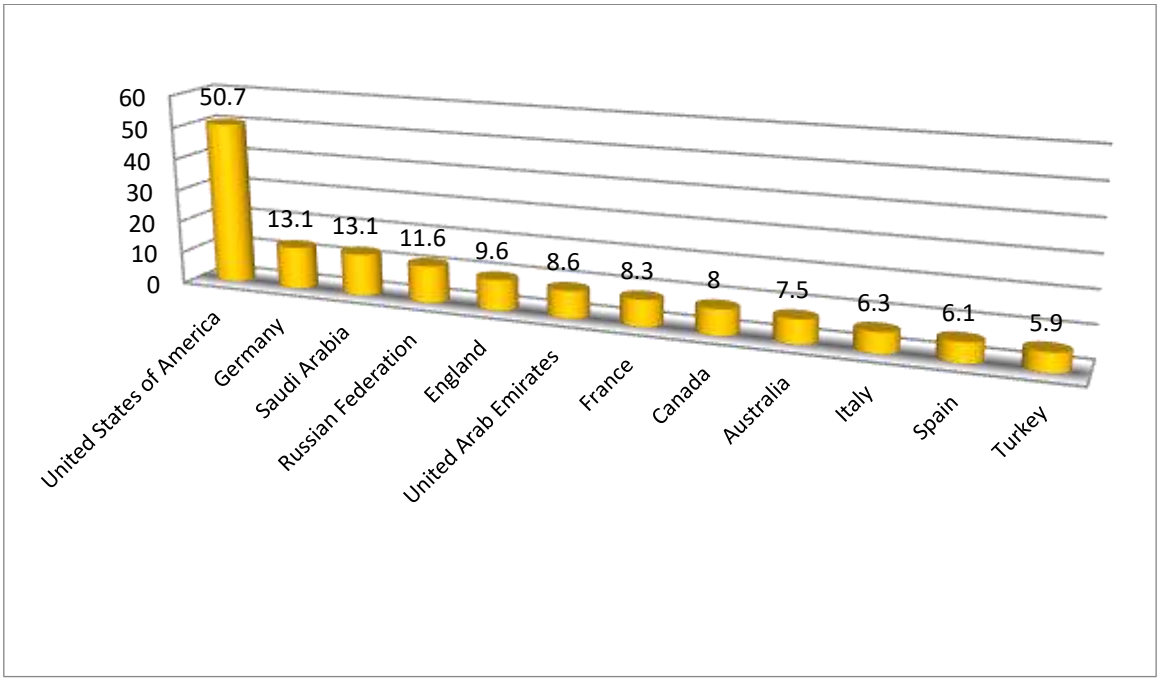
The United Nations Department of Economic and Social Affairs (UN DESA) has developed and widely accepted definitions of these terms. Institutional immigrants; defines it as a person who usually acts voluntarily to live or work temporarily or permanently, but emphasizes that these people can cross the border as well as be within the same country or city (UN DESA, 1998). Amnesty International briefly and concisely explains the concepts of refugee (refugee), internally displaced people and asylum seekers (Amnesty International, 2016); Refugee: Forced to leave or flee a country due to persecution; Internally displaced persons: Persons who had to leave their country but did not cross the border to leave their country; Asylum seeker: Specified as a refugee seeking protection from other countries.

Percentages of those registered with the High Commissioner according to sectarian distribution.

Percentage of total enrollment	**Sunni**	**Shia**	**Christians**	**Muslims without denomination**	**Sabian - Mandaeans**	**Yezidis**
Syria	3.53 percent	21.8 percent	17 percent	2.1 percent	4.6 percent	0.9 percent
Jordan	56 percent	26 percent	15 per cent	1 percent	1 percent	0.1 percent
Lebanon	30 per cent	57 percent	12 percent	0.7 percent	0.1 percent	0.1 percent
Turkey	35.9 percent	18.8 percent	18.8 percent	31 percent	unavailable	unavailable
Egypt	unavailable	unavailable	2 percent	98 percent	unavailable	unavailable

The United States has been the most preferred country for international immigrants since 1970. It ranks first with the number of immigrants approaching 51 million in 2019 (see table 3). The most preferred secondary country for immigrants in 2019 was Germany with 13.1 million. Table 3 provides a list of the 12 countries most preferred by international immigrants.

Table.3: 12 Countries Receiving the Most Immigrants in 2019 (Million)



Source: UN DESA (2019).

In addition, the 12 countries with the largest migrant origin in terms of origin are shown in Table 4. A careful examination of the table reveals that more than 40 percent of all international immigrants worldwide (approximately 112 million) were born in Asia. In 2019, Asian countries such as India, China, Russian Federation, Bangladesh, Pakistan and Afghanistan top the list. While Mexico takes the second place on the list, European countries Ukraine and Poland are also on this list.

5. Big data at the service of the International Department of Migration

Migration has been at the top of the global policy agenda for many years. This has recently emerged as a refugee crisis. Millions of people have had to migrate, mainly from Iraq, Syria, Yemen, Bangladesh and Venezuela. If world states want migration to be managed effectively, reliable, quality and timely data on migration must be obtained. Insufficient migration data can often cause decision makers to make wrong decisions and to misconceive people about migration. The biggest example of this is in many countries, the general public often believes that the scale of migration is much larger than it actually is (Laczko, 2016). With this situation, we come across the very discourse of securitization. It can be supported by discourses such as the adopted policy strategies and the use of numbers for control purposes.

However, the international migration data currently collected and published by countries is so limited that we know little about the volume and dimensions of migration in the modern world (Laczko, 2016; Santo Tomas et al., 2009). The lack of this information can basically prevent us from answering the most fundamental questions about how human movements interact with the social, cultural or social development process. It should not be forgotten that immigration policies are determined in line with the data obtained. However, due to insufficient data flow, policies and their results may be insufficient in many areas (Santo Tomas et al., 2009).

Immigration data is always based on censuses, which may refer to old censuses from several previous years ‹The UN Population Division recently notes that, for example, the most recent data from censuses for 17 percent of African countries and 8 percent of countries in Latin America and the Caribbean date back to the years before 2005 (United Nations, 2016). Censuses can only contain a limited number of immigration-related questions and therefore may not explain the causes or consequences of international immigration. they cannot provide the detailed information necessary to analyze it comprehensively (Laczko, 2016; de Clercq, 2008). Censuses may not provide detailed information about the year of migration, making it impossible to determine whether someone is a new or long-term immigrant. More specialized household surveys of the migrant population are needed to conduct such an analysis, but a global migration survey program to help countries collect such data is unfortunately not available on a global basis (Laczko, 2016). Moreover, some countries still do not ask about a person's place of birth or citizenship in their censuses.

Even if the data collected with such incomplete information is collected, especially the underdeveloped countries have had difficulties in analyzing the migration trends fully and have faced the situation of not having the necessary resources. This situation is more common in undeveloped regions and the main problem of this is that they do not have the necessary infrastructure and economic competence to obtain such data. The 2016 New York Declaration for Refugees and Immigrants by the United Nations (2016) also focused on this issue and explained this situation as follows. It is very important to introduce enhanced data .

I. Ask three basic questions about each census; country of citizenship, country of birth and previous residence, then crosstab this information by age and gender.

ii. Take advantage of existing administrative data sources, which often contain rich and underutilized information on international movements.
iii. Compile available data from workforce surveys of countries around the world into a single, cohesive, frequently updated database.
iv. Provide public access to anonymous individual records of international migrants, from surveys and administrative data, to allow for significant improvements in research quality while maintaining confidentiality.
v. Increase the systematic use of standardized modules of immigration-related questions in ongoing household survey programmes, particularly in developing countries.

On the other hand, the Global Partnership for Sustainable Development Data project, which emerged with the vision that the opportunities of the data revolution will be a force to improve life for all humanity everywhere, also makes significant contributions (The Global Partnership for Sustainable Development Data, 2020). The project focused on three main points about using data more clearly and accurately in order to realize its purpose and vision. Governments use budgets to develop policy-making and service delivery in line with needs; they state that citizens and civil society groups need to be more involved in the process and make better decisions and hold their leaders accountable for their actions, and companies need to build capacity and encourage entrepreneurship and innovation.

Data for Refugees (D4R) project, on the other hand, enables research on the pressing issues of refugees in Turkey, including health, education, unemployment, security and social integration, initiated by a private database in Turkey, thereby improving the conditions of refugees. It is a scientific formation initiated for the improvement (Salah et al., 2018). The project was carried out in cooperation with the Scientific and Technological Research Council of Turkey (TUBITAK), Boğaziçi University and various academic and non-governmental organizations, UNHCR, UNICEF, International Organization for Migration, initiated by Türk Telekom (ibid.).

The collected database is based on an anonymized mobile call detail record (CDR) of telecommunication company customer's phone calls and SMS messages. The data obtained within the project show the broad activity and mobility patterns of refugees and citizens in Turkey over the course of a year.In particular, the UN has taken important steps regarding the data of immigrants. The United Nations aims to support member states in the collection, tabulation, analysis, dissemination and use of migration data. This is why.

Big data is expected to contribute directly to monitoring the implementation of the Sustainable Development Goals (SDGs) (Global Migration Group, 2017). The International Organization for Migration, on the other hand, comes up with applications that support the continuous improvement of international migration data. Some examples of these practices are as follows: "International Forum on Migration Statistics: promoting technical exchanges; A global transition to the data portal: better use of existing data and the global migration data training program: building data capacity" (Laczko, 2016).

6. Opportunities and challenges facing big data on international migration

Although it is hard to imagine for millions of people living in peace, comfort and security, in the light of the data given above, we can say that every minute people are forced to migrate or leave their homes or become refugees. People who are faced with violence, political unrest or persecution, primarily for economic, social and cultural reasons, are forced to migrate to regions that do not belong to them. Big data is important in the age of technology in order to identify these people and to obtain healthier cases in the future.

For the most part, we think of big data as a tool for businesses and smart city developments, but in reality, it can serve many different purposes, including helping the most vulnerable people in the world find their footing and get help leading a better life (Santo Tomas et al., 2009). During the provision of these services, many opportunities or difficulties may be encountered while obtaining data, evaluating it or creating policies in line with the results. In this section, we will consider the opportunities and challenges in using big data.

Advantages/Opportunities

Big data generated in the global, regional or local environment can potentially lead to more transparent and effective management decisions, quality services and innovations that can lead to changes in regional development priorities. However, a significant amount of different information about the situation of the region can often be obtained using different techniques and different technologies, more systematic data and facts can be obtained. Stating that the overall life cycle of the crisis can be divided into three stages and analyzed, Qadir et al. (2016) describe these processes as before, during and after the crisis. In addition to efforts to reduce disaster risk, a potential crisis

Big data is of great importance in completing the pre-crisis preparedness with the help of its pre-crisis preparation (Twigg, 2004). Big data analytics can be useful for contingency forecasting at this stage, either before the initial event or as part of the emergence of an ongoing crisis. Since every effort to prevent the upcoming crises will be a part of this stage, it is important to take measures before the crisis occurs.

Big data on migrants, which can be collected by a variety of sources, including migration data, national censuses, sample surveys, and administrative sources such as smartphones, border crossings and population registers, can improve the lives of affected people, facilitating better coordinated mapping of conflicts or hardships and uncovering solutions. This type of aid can have a structure that guides and encourages non-governmental organizations that make efforts to improve it (Harvard Humanitarian Initiative, 2010; Qadir et al., 2016; Beduschi, 2018). As can be seen from this, this type of big data can provide an advantage for authorities at the forefront of the crisis to produce better policies and minimize problems. For example; The state, which was caught unprepared in the first days when the Syrians started to come to Turkey, could not take the necessary steps and could not provide the desired level of service. However, in the light of the data obtained, it has led to the emergence of more systematic policies and the emergence of service-oriented behaviors in the second and third waves by collaborating with many institutions.

Sophisticated analytics can help experts confidently determine where refugees will go next. Policy makers and service providers can identify future human mobility and refer refugees to different countries. This real-time data can help organizations quickly and accurately route money and goods to where they are needed most. A prime example of how data providers can contribute to more systematic analyzes of human mobility through big data, not only by sharing raw data, but also by providing services and developing apps that can help measure migration-related patterns, is to use the power of big data launched in 2016 and advanced analytics for the public good. open algorithms Project (OPAL), a collaborative project (Rango & Vespe, 2017). OPAL helps to obtain more systematic data on human mobility by providing a model for how data will be shared while maintaining privacy and analytical flexibility through legally and technically validated algorithms.

Without analytical data, it can be difficult to predict where refugees will decide to seek a safe life. Although countries that are close to them come to mind first, immigrants may want to migrate to countries in distant regions (Bansak, 2018). Those living in Africa may prefer Europe or

America rather than another African country; There is a desire to migrate to Europe through transit countries from Asia; The first dream of millions of Syrians who immigrated to Turkey is to migrate to Europe. Big data sources come to the fore in determining these options and analyzing the data correctly.

Salah et al., (2018) state that big data sources are among the sources that can contribute to the well-being of the refugee population. Big data is among the sources that can guide government institutions and non-governmental organizations in obtaining information on important issues such as security, health, education, unemployment, social integration and discrimination, mobility and the distribution of resources and infrastructure (Salah et al., 2018; Bansak, 2018).). He also mentions that governments and international organizations model the dynamics of the immigrant or refugee population and that there are rare sources that can reveal security vulnerabilities more transparently (Bansak, 2018; Beduschi, 2018). Finally, in the light of the data that can be obtained, host countries are important resources for producing new applications, services and problem-solving policies in line with the demand for immigrants and refugees (Salah et al., 2018).

Big data offers us a powerful tool to help people who have had to leave their homes, but we need to start using it as soon as possible (Machado, 2015). Data sources and centers are an important place to start collaborating on voluntary or forced relocation, but many refugees, especially in crisis, need immediate assistance. To help end the refugee crisis and help millions of displaced people feel safe and comfortable once again, all stakeholders need to come together and act on the data obtained, in order to collect data, make smart policy and create a healthy future (Blondel et al. al., 2012; Salah et al., 2018; Bansak, 2018). Achieving this depends on the reliability and accuracy of the data obtained. Otherwise, worse results may be encountered.

Disadvantages/Challenges

One of the most common complaints about big data is that the data is too large and complex. In fact, it means that big data provides many opportunities in all its aspects, as well as encountering so many difficulties in the fields where data is owned (Altunışık, 2015). The first thing that comes to mind when big data is mentioned is undoubtedly technology. Technologies have the potential to contribute to the improvement of international migration management and enhance the protection of migrants at risk (Beduschi, 2018). However, the widespread use of such technologies can pose a serious risk to the security and future of migrants

.

We will evaluate the challenges presented or faced by big data in the context of migration (Sivarajah et al., 2017; Zicari, 2014) under three main headings. These are respectively; data are evaluated as process and management tasks.

Data issues; problems related to the characteristics of the data, such as volume, variety, speed, accuracy, quality (Sivarajah et al., 2017). The volume, speed, diversity, accuracy and quality of the data obtained due to the increasing migration events in recent years are being questioned every day. The complexity of big data and the speed of change in a short time are the most common problems faced by institutions or people regarding big data (Altunışık, 2015). This situation can be seen as a major obstacle to obtaining reliable and adequate numerical data of national or international institutions and organizations for immigrants or refugees (Minelli et al. 2013).

In addition, we live in societies that are much more open and transparent than before, and information that was previously considered private can be shared on Twitter, Instagram, Facebook, YouTube, Linkedin, etc. It has become more freely shared information on platforms (Kitchin, 2014). No country can guarantee that big data obtained by immigrants and refugees will not be published on this type of platform. At this point, the situation of violation of privacy and human rights comes to our agenda. Therefore, the confidentiality of the data obtained, its compliance with ethical rules and its storage in reliable environments constitute a necessity (Zwitter, 2014). Solove (2013) states that another dimension of this problem is that the documents signed by people while obtaining the data are not fully understood and people obviously do not know what they are signing under the privacy policy. He also states that water points should be paid attention to; people don't read privacy policies, even if people do read them, they don't understand them; If people read and understand them, they often lack sufficient background knowledge to make an informed choice, and if people read them, understand them, and are able to make an informed choice, their choices may be skewed by various decision-making difficulties. This means discussing the decisions that immigrants, who come across as a large group deprived of education, will make in such a situation.

Process challenges relate to a number of methods, refer to the process involved in how to capture data, how to integrate data, how to transform data, how to choose the right model for analysis, and how to deliver results (Sivarajah et al., 2017). Processing such semi-structured datasets at scale poses a significant challenge, as large datasets are often non-relational or

unstructured (Kaisler et al., 2013). Big data, which goes through a difficult process such as data collection and storage, data mining and cleaning, data collection and integration, data analysis and modeling, data interpretation (Chen and Zhang, 2014), takes a long time for international migrants and refugees. It should not be forgotten that the most productive for immigrants are the earliest results.

Administrative challenges can be addressed as issues related to privacy, security, governance and ethical issues (Uthayasanka). In fact, when we look at the literature in general, we can state this as the most important problem we encounter. Country governments or non-governmental organizations have developed projects and made large investments in order to better understand international migration and to obtain big data more quickly and reliably. However, since migration, immigrant and refugee issues are sensitive issues, more difficulties have been encountered above the undesirable level (Beduschi, 2018). Governments and organizations face challenges in managing privacy issues and hiring data analysts, thus making it difficult for organizations to advance their efforts to use big data.

In addition, one of the most important problems encountered in reaching big data in the administrative field is the lack of political will (Kshetri, 2014). The desire of official institutions not to share the data they have obtained is a major obstacle to reaching the desired level of data in the international arena. Technical difficulties and data trust are another issue that needs to be addressed in the administrative field (Santo Tomas et al., 2009; Chen & Zhang, 2014). Storing, examining and protecting the obtained data requires a high technological infrastructure, but this requires a high and heavy financial investment. Considering today's economic conditions, the number of countries or institutions that can fully realize this is unfortunately not at the desired level. It is very important for countries to create the capacity to collect and manage this data in order to reach the desired data in international migration and to address people in a real sense (Otto, 2011; Hashem et al., 2015).

Ethical and privacy issues are at the root of the problems encountered in data collection, but the dangers of not being able to manage, use and manipulate data can also follow them (Chen et al., 2013; Smith et al., 2012). These situations are also a major concern for organizations with large data stores. As a result, some large data warehouses can be attractive targets for hackers or advanced persistent threats, raising questions about the storage of the obtained data. The risk of vulnerable people's privacy information being shared with secondary hands in this way is

among the reasons why states do not share data, and it also changes people's perspectives on data collection tools.

7. Conclusion And Discussion

A good understanding of migration and refugee movements is an important element in the decision-making mechanism for countries of emigration and immigration. Traditional statistical tools based on local and central sources, national censuses and limited number of surveys are insufficient to identify the causes of the high numbers of human mobility and to take the next steps. The adequacy and reliability of these sources, which can be called old, has also been a matter of discussion. As new technologies develop, the source of data has increased and now big data has emerged. While this situation offers important advantages for many states in the national and international arena, it has also brought disadvantages. However, if we make a general judgment; The development of new technologies based on big data has more positively affected the capabilities of states and forced immigrants, who had to migrate voluntarily or forcibly, are a tool for individuals to solve their basic problems such as security, health, education, unemployment and social integration and to live a better life. can be used as.

Big data and big data technology, when used correctly, can help create fairer and better planned policies for decision makers and citizens awaiting service in the context of large movements of migrants and asylum seekers. For example, researchers have successfully tracked migration patterns in the Mediterranean region by comparing online data collected by Google Trend with Official data provided by governments and the United Nations High Commissioner for Refugees (UNHCR) (Beduschi, 2018).

Big data can help to obtain more comprehensive information such as why people had to migrate, where they went and what their next steps would be, by collecting data before, during and after the migration event started. This shows that it can be used as a tool to identify migrants who are at risk of dying on land or at sea, especially during migration. The International Organization for Migration's Missing Migrants Project was established to monitor events involving migrants, including refugees and asylum seekers, who died or disappeared in the process of migration towards an international destination. The Lost Immigrants Project reveals whether changes have been made to the data and, where possible, includes a link to the website. Another concrete example is the European Border Surveillance System, which is an EU project and is commonly known as EUROSUR. EUROSUR is an information exchange framework

aimed at improving the management of Europe's external borders. It is designed to be at the center of Frontex's surveillance and response capabilities. With this project, it has been put forward with the aim of monitoring, detecting, preventing possible human movements that will take place at land and sea borders, and contributing to the fight against illegal migration and cross-border crime and providing protection, and saving the lives of immigrants (EU OJ, 2013).

However, since migration and refugee issues are sensitive issues, new technologies in data collection, storage, information accessibility should be regulated by law and protected by international policies. Data must be constantly legally reviewed and prevented from being used by the wrong people. Local and regional authorities should take care of data quality, establish processes and provide effective guidance for data analysis. Migrants and refugees, who may encounter inhumane situations, will clearly be in a more difficult and vulnerable situation in the face of such a situation.

In conclusion, in this article, we tried to perform a systematic analysis focusing on the use of big data techniques in the context of international migration and refugees. Our aim in this article is to discuss the advantages and disadvantages of big data in the face of increasing human mobility, and to reveal the potential of big data in various environments such as poverty reduction, production, health and education from a different perspective. In this study, we had the opportunity to evaluate the difficulties and opportunities encountered in obtaining, interpreting and presenting big data.

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