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DETECTING MIGRATION TRENDS

A Method for Open Source Data Analysis

Faculty of Social Sciences
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ABSTRACT

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As migrational events tend to develop together with the societal and technological trends in the modern world, there emerges a need to discover new methods to assist and understand the research about the phenomenon. Evidence presents that modern technological developments, such as smartphones, the internet and social media shape the ways that migrations emerge and develop. This research aims to apply new methods in order to understand these mechanisms deeper. The research applies Mixed Methods Research, combining quantitative and qualitative methods, using the quantitative data as a basis for semantic qualitative analysis. This research's interest is to study whether applying Open Source Intelligence (OSINT) methods can be utilised for understanding, analysing and even nowcasting contemporary migrational trends. In the quantitative part of the research, data is extracted by using Google Trends Index and Search Engine Optimisation (SEO) tools. The qualitative analysis is executed by filtering the quantitative results through pre-existing theories of migration drivers and push-pull factors. The case presented in this study is the migration event from Iraq via Belarus to other European states, which took place in 2021. Research is done by selecting precise keywords used in Google search queries done in Iraq, extracting additional related keywords, and analysing the results based on factors such as Interest over time, Interest by subregion, Related keywords and SEO analysis. The thesis argues that these Google queries may provide additional insight into the migrational push-pull factors and drivers behind the migration trend and to present further insights into the complex nature of the fragmented and turbulent reality of this migration trend.

Keywords: Migration, Google trends, migration drivers, push-pull factors, Mixed Methods Research (MMR), nowcasting, Open Source Intelligence (OSINT)

The originality of this thesis has been checked using the Turnitin OriginalityCheck service.

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1. INTRODUCTION

This thesis' scientific intention and curiosity can be seen as a two-step process. Firstly, is it reasonable or meaningful to utilize Mixed Methods Research (MMR) and Open Source Intelligence (OSINT) methods in this specific field of research, and secondly, what additional informational value it may provide. After the literature review and methodological chapters, the study is structured into two distinctive phases. The first phase extracts, collects and analyses the relevant quantitative data, and the second phase focuses on analysing the qualitative interpretation based on the data obtained from Google queries.

The case is built over the migrational event that took place between Iraq and Belarus in 2021. This thesis aims to analyse the Google Search Engine queries done in Iraq and whether the keywords used in these particular queries may offer some material for qualitative analysis in the framework of the 'push-pull plus' -theory. Qualitative analysis of the results through this framework is done systematically following the theories of migrational driver complexes.

The first phase focuses on extracting keywords from Google Search Engine history and Google Trends Index. Furthermore, selected keywords are taken into deeper analysis by using Search Engine Optimisation (SEO) method, which provides further insight behind the queries presented. Google search engine provides data from queries done in Iraq, and through the Google Index, related keywords and Search Engine Optimising (SEO) methods, the resulted keywords and additional insights are derived and analysed by methods of qualitative traditions.

The second phase concentrates on applying the presented theoretical framework of push-pull factors and driver complexes using the information provided by the keyword extraction and analysis done in the first phase. The second phase named 'Qualitative data collection & analysis' -chapter analyses the potential relevance of the information gathered. The hypothetical assumption is that the used keywords may provide further insights into the complex reality of migration trends.

1.1 Research intentions & curiosities

- 1) Can open-source data analysis help us better understand migration's drivers, determinants, trends, and attitudes?
- 2) If yes, how precise and reliable can it be? How could the results' accuracy and reliability be determined? Can the evidence from Google queries correlate with actual events related to the migration trend?
- 3) If there is evidence of some validity within these hypotheses (quantitatively accurate and reasonably reliable), what qualitative insights and understandings, if any, can be proposed or extracted from this research?

In order to test these hypotheses, this thesis presents 'an apparatus', a systemic approach that examines several different methods that could be used as tools for data collection and additional insight for assisting research on the complexity of migrational trends.

1.2 Structure of the thesis

- 1) **Introduction:** This chapter's purpose is to provide an overview and context for the thesis. What are the research's primary objectives, and what are the specific research questions? This introduction also includes ethical considerations and disclaimers.
- 2) **Literature review:** The second chapter contains a literature review of the theoretical frameworks and terminology employed in this study. This chapter is divided into several sub-themes that shed additional light on migration theories. These subchapters cover a variety of topics, including terminology, classification, dynamics, determinants, drivers, and driver complexes.
- 3) **Methodology:** The third chapter discusses the methodology employed in the study. The chapter aims to explain how models are developed and constructed, as well as what factors are considered to produce reliable results. This chapter

introduces the study's approach to Mixed Methods Research and Explanatory Sequential Design.

- 4) **Quantitative Data Collection:** The fourth chapter is devoted to quantitative data collection. This chapter discusses the datasets that were used in this study and why they were chosen. There are two distinct sets of data: queries from Google Trends and data derived from these queries. Additionally, these datasets include data on interest over time, interest by subregion, and related topics.
- 5) **Quantitative Data Analysis:** The fifth chapter summarizes the findings of the quantitative analysis and selects qualitative data for the thesis's qualitative phase.
- 6) **Qualitative Data Collection & Analysis:** This chapter proceeds with qualitative data collection and analysis. The chapter will introduce the qualitative findings from the cases, accompanied by analysis. This chapter discusses possible findings in light of the literature review's theoretical frameworks.
- 7) **Summary:** The final chapter will discuss the findings and will summarize the results of the thesis.

1.3 Context & Purpose

It appears as though the use of Google data could be expanded to include social sciences. In this instance, for forecasting large-scale migration trends. It is critical to note that the primary topic, the 'migration' theme, is merely a contingent variable. The primary research topic is modifiable within this 'apparatus', which in this case takes the form of a thesis. The theme of migration was chosen as the primary focus of this study because accurate data from the forecasting model's output are available. This enables the accuracy of the hypothesis's outcome to be determined. Additionally, there are readily identifiable and, therefore, researchable migration trends and events that can be detected and analyzed using search engine data.

One of the objectives of this thesis is to investigate how open-source search engine data can be used in the future to analyze social trends. The purpose of this study is to assess the usability of open-source data in relation to migration behaviours and events. While the data used is recent, this method can also be modified to present real-time snapshots or continuous scanning of any trend that generates sufficient interest and Internet activity.

This method of research was only recently made possible by technological advancements. Since Google Trends' inception in 2006, the data's quality and quantity have steadily improved. Although the search engine data is analyzed retrospectively, it is reasonable to assume that this method can be replicated to observe current events (nowcasting) or even event trends in the near future (forecasting) when similar apparatuses are used.

The purpose of the thesis is to conduct a general examination of a novel method and whether there are to be obtained any results which can be applied for future research purposes. The nature of assistance is more indicative rather than fully explanatory. The aim is to examine whether this method can be applied by researchers to obtain information related to migrational events immediately and based on open-source data streams. The theme of open-source data and information is important throughout the thesis. This examination is for the purpose of academics, researchers of smaller NGOs and INGOs, think tanks and investigative civil journalists. The method is based on free open source information that is available for anyone to obtain. This is deliberately designed by considering the accessibility to the information without having any prior funding or capital. This is in contradiction to any bigger institutions that may have their high-end surveillance technologies, private data banks and any other resources not available to public. The purpose of this method is to test and analyse whether the method has usability for any research purposes.

The same method has been used successfully in a variety of topics, including examples in investigative civil journalism, private think tanks, volunteer networks and academic research. To mention a few examples, Bellŕngcat think tank has been applying

successfully similar methods when tracking movements of the Russian army during the invasion of Ukraine in 2014. In addition to Google (DigitalGlobe satellite imagery), the think tank analysed videos and content shared on different social media platforms, such as YouTube and Vkontakte. (Bellengcat, 2016) Other notable examples are done in research utilising Google search queries for forecasting unemployment trends (Tuhkuri, 2015). This particular study used a similar method of applying the Google Trends Index (GTI) to examine and analyse unemployment developments. The data was based on Google search queries. (Tuhkuri, 2015) Although these examples mentioned are not particularly in the field of social sciences, they present a glimpse of a wide variety of how similar open-source methods may be applied for a variety of research purposes.

A similar method has also been used in an academic article focused on forecasting migrational trends by analysing online search keywords (Böhme et al., 2020). This particular research is very close to the method of this thesis, yet there are also many differences. Böhme et al. (2020) conducted their research from a heavier data and statistical analysis perspective. In addition, the study relied on survey data which supported the findings of the online keyword analysis. Since this thesis is not designed to be emphasised a heavy statistical method or rely on surveys, the results can be seen as relatively similar: online keyword queries derived from open sources, such as Google Trends' data, can be utilised for investigating and analysing current migrational trends if not even offer a certain level of predictability to the migration events. (Böhme et al., 2020) However, this thesis does not extend that far that it would make any claims for predicting or forecasting migrational motions based on this research, although there is a potential element of nowcasting. Nowcasting is focused on the investigation and analysis of current events in situations where there is either a very limited amount or no available data at all from official sources. Nowcasting may provide insights and indications of how is a trend developing at the moment when online research is conducted.

Despite the fact that the thesis is structured around the theme of migration, the actual content within the same method could vary. By using similar online keyword query analysis methods, the research could be done, for example, by examining appearing

changes in domestic or even international attitudes and tensions. As an example, this could include studying the tensions between ethnic groups in the Balkan region by analysing keywords containing any derogatory language or aggressive language used either in Google Search Engine or especially on different social media platforms. Twitter offers access to its users' data for academic research purposes (Twitter, 2022). This data derived from the social media platform can be used for analysing sentiments in social dialogues. Prevalence and trends regarding specific keywords can be analysed, and it is possible to examine developments in social tensions by a comprehensive examination and analysis of any social trend developments. This method is problematic in regards to individual data privacy policies, and a researcher should be extremely cautious of any personal privacy violations since the Twitter data could be targeted against individuals. This is also why Twitter restricts the use of its data for only academic research purposes (Twitter, 2022). However, this is another example of how a variety of free open source data may be utilised for different research purposes, also in the field of social sciences and particularly in the field of peace and conflict research.

This apparatus which is being generally examined, including its extensions, have limitations as they are highly dependent on the quantity and quality of available data and the attributes used for each case study. It is crucial to notice this research is case-specific; it has limitations and thus should not be attempted to be applied in any universalised manner. The data used in this research is narrow and case-specific, and the results are merely indicative, not fully explanatory or exhaustive. Any results, a more comprehensive critical perspective and the limitations of the findings will be discussed and summarised in greater detail later in the analysis and conclusions of the thesis.

1.4 Research ethics

It is critical to recognize that migration is a highly politicized issue. More precisely, immigration and asylum issues are extremely touchy sub-topics. Particularly in the aftermath of 2015 immigration-related events, this subject has sparked heated public debates, most of which have been destructive. Political parties have manipulated immigration to advance their political agendas. Additionally, a variety of other politically

or ideologically motivated factions have incorporated migration into their agenda and propaganda. This thesis does not contribute to the political debate. This thesis aspires to be as politically and ideologically apolitical as academic research can be. This thesis contains no moral components or arguments. The purpose of this thesis is to determine whether open-source data can be used and how it can be harnessed to improve our understanding of emerging social trends.

In addition, it is crucial to examine further any potential data privacy violations. Due to the nature of the data used in this study, it is impossible to identify any specific individuals based on the findings. This study is conducted by respecting any data privacy related rights, and none of the queries can be traced back to any individual Google Search Engine user. Although the privacy of the individuals is protected, it is important to elaborate on the results based on the language used and any potential references to any ethnic groups. The conduct of this research is very limited and designed only on a very limited amount of keywords and languages. Due to the limitations of a master's thesis, the number of keywords examined is limited, and the languages involved are only English and Arabic. Some results may indicate that interest in this particular migration event was more prevalent in the Kurdish areas of Iraq, but one should not make direct generalisations based on this finding. There existed a hybrid campaign by the states of Belarus and Russia, which distorted the generic interest for this particular migration campaign. There should be no direct assumptions based on ethnicity since this study is not systematically analysing the role of this hybrid influence. Any results which may be presented later in this thesis should be examined further. The results presented are indicative, not exhaustive.

2. LITERATURE REVIEW

2.1 Terminology

When studying migration, it's crucial to distinguish between the various terminologies: traditional, most generally used, and newer terminologies introduced by more recent studies. Immigration is a broad phrase that refers to a variety of different categories and

subcategories within the more significant issue. The purpose of this chapter is to define vocabulary used in migration studies as well as the thematic notions associated with it. The models designed for predicting and nowcasting require highly particular keywords and timeframes in order to perform. It is critical to concentrate on the suitable migration niche in order to achieve this specific concentration.

2.2 From ‘Root Causes’ to Fragmented and Turbulent Drivers

The factors and drivers of a specific migrational flow from Iraq through Belarus and then to Europe in 2021 are investigated in this thesis. The majority of the study on the determinants of migration has concentrated on what is commonly referred to as ‘root causes’. (Thorburn, 1996; Martin et al., 2007; Van Hear & Castles, 2011; European Council, 2015, as cited in Düvell, 2019, p. 2229)

The determinants in the country of origin are usually the only ones mentioned in these texts. However, as has been critically discussed in transit migration studies – particularly those focusing on refugee and irregular migration – this frequently leads to erroneous assumptions of a single key driver rather than solid intentions and thus linear movements (Collyer et al., 2012, as cited in Düvell, 2019, p. 2229).

Migration trajectories, on the other hand, have been reported to be frequently ‘fragmented’ (Collyer, 2010, as cited in Düvell, 2019, p.2229) or ‘turbulent’ (Schapendonk, 2012, as cited in Düvell, 2019, p. 2229). This necessitates a deeper examination of the factors in other countries along the path, such as Belarus, where migrants have stayed or travelled before continuing on their journey. These factors are what are referred to as secondary root causes. The fragmented and turbulent nature of migration is an elementary approach in this thesis, which employs complicated theories to portray a complete analysis of this complex topic.

2.3 Critique towards categorisations

Although this thesis attempts to establish, apply, and use categories of migration and migrants, it is vital to address some of the underlying concerns that this classification as a project raises. According to an article written by Erdal and Oeppen (Erdal & Oeppen, 2018), in their analysis, the researchers noticed that categorising, labelling, and generalising migration produce problematic consequences.

The article (Erdal & Oeppen, 2018) demonstrates how difficult it is to maintain the validity of a widely used categorical distinction between voluntary and forced migration. The categorical separation between so-called 'voluntary' or 'forced' migrations has been presented as a general dichotomy when examining migration drivers. Erdal and Oeppen (2018) successfully demonstrated that even this seemingly solid dichotomy is anything but a solid category. Forced and voluntary migration appears to be more of a continuum of experience than a contradiction (pp. 981-983).

This continuum is a dynamic, changing process with numerous discrete stages and elements rather than a solid state. Analysing migration as a process entails stages such as 1) journey & transit stage, 2) arrival & settlement stage, and 3) a return and continued migration. Each stage may include interests and motivations that are separate from one another. (Erdal & Oeppen, 2018, pp. 988-993) Academics emphasise that every migration is 'mixed.' Important for people in need of special protection and those that are given the status of a refugee, as described and defined by the 1951 Refugee Convention. (Kumin, 2014; van Heelsun, 2016, as cited in Erdal & Oeppen, 2018, pp. 993-995)

As a result, several countries (including many EU states) undertake migration management, requiring additional labelling of migrants and categorising migrants on the binary axis of voluntary or forced migrants. This serves as an example of the simplification of reality by forming bureaucratic categories. Labels such as 'family reunification migrant', 'labour migrant', 'refugee', 'asylum seeker' and 'international student' are among the numerous bureaucratic classifications. (Beine et al., 2016, pp. 833-835) These categories

are explored in detail in the database, including the suggested categorisations by IMPALA (Beine et al., 2016, pp. 833-835).

When categories and labels are blended and used as instruments for a variety of other reasons, problems develop. As discussed in the article by Casas-Cortes et al. (2015, as cited in Erdal & Oeppen, 2018, pp. 982-983), the terms like "illegal immigrant" and "bogus asylum seeker" are used to describe people who are said to be undeserving of international protection. When labelling persons who have little or no authority over how they are labelled, bureaucratic labelling and categorisations result in having discursive power; thus, it is not a problem-free practice without consequences.

Bakewell (2011) presents a compelling case against terminology like "migration" and "displacement." He claims that the terms commonly used, a) process, b) condition, and c) category, are inappropriate for describing reality. This categorisation would indicate that any individual migrant can be subjected to multiple categorisations simultaneously. Functional labels include actions such as a) doing a migration, b) living as a migrant, and c) being labelled as a migrant. (Bakewell, 2011, as cited in Erdal & Oeppen, 2018, p. 983)

Fundamentally, there is no such thing as a broad and precise term that can fully explain everything. The question takes on a more philosophical tone in this light. This problem is not simply a philosophical difficulty of will but also a philosophical dilemma of language, as in the power of labels, as in language morphing reality. (Nozick, 1990; Olsaretti, 1998, as cited in Erdal & Oeppen, 2018) It is difficult to determine if a choice is voluntary or involuntary (Olsaretti, 1998). Olsaretti shows this notion with comparison instances in an imaginary case she portrays. The samples have been changed to reflect the migration theme in this case. (Olsaretti, 1998, as cited in Erdal & Oeppen, 2018, pp. 988-995)

Example 1: Person A is a Syrian national who has the right to leave the country. Despite her desire to escape, she is terrified of the perils of the journey and believes that the risks of dying on the road are too significant to risk. In addition, her family does not support her

decision to travel as an unmarried woman. Her decision to stay in Syria was not made voluntarily.

Example 2: In Eritrea, Person B is a national conscript, which means he is not allowed to leave the country. On the other hand, Person B believes that Eritrea provides him with all he requires and hence refuses to go. His decision is entirely his own.

However, we must distinguish a bigger context around the means to make a free decision in addition to the 'voluntary of one's choice. As Olsaretti (2004) argues, decisions should not be taken for free; there ought to be a consideration of adequate alternatives included. (Bartram, 2015; Ottonelli & Torresi, 2013, as cited in Erdal & Oeppen, 2018) In the above-mentioned hypothetical circumstance, Person A is free but stays unwillingly; Person B is not free but stays voluntarily. (Erdal & Oeppen, 2018, pp. 988-995)

As a disclaimer, categorising, labelling, or any other form of semantic stigmatisation is not without flaws. In light of research that shows how terminology contains and creates discursive power, this thesis employs some pre-determined generalised categories to provide an initial framework for the analysis.

It is critical to reject and avoid employing simplistic dichotomies such as forced vs voluntary migration in analytical and scholarly tradition. This framing, however, should not lead to the use of the ambiguous phrase "mixed migration" or acceptance of the discursively constructed dichotomy of "forced" and "voluntary" migration (Erdal & Oeppen, 2018, pp. 981-983). Although the realities of migration are more complex than the most prevalent terminology used in migration management strategies, the complexity of the topic at hand should not deter researchers from continuing to study it.

Specific categorisations will also be employed in this thesis, particularly in the quantitative phase, which is primarily concerned with data selection: The data used in this study is partially based on statistics provided by immigration agencies or border control agencies. This does not imply that everyone who has tried to cross a border or submitted an asylum

application is an illegal immigrant, refugee or asylum seeker by choice or intention. Even if asylum seekers are officially and according to the current bureaucratic labelling and legal framework, there is a limit to information for a researcher who analyses these numerics and label categories.

A set of keyword searches and queries performed by possible asylum seekers or persons interested in it will be shown in the qualitative section of this research. These keyword searches may reveal a different viewpoint on other interests, curiosities, and underlying questions people have while considering migration to another country or continent. The “Results” and “Discussion” chapters will go through this in further detail.

2.4 Push-pull plus: Driver complexes

Elements of the theoretical framework related to the driver complexes of migration will be analysed and applied later on in the discussion chapter of this thesis. Extended analysis of the theory and categorisation behind the driver theory (derived from ‘Push-pull plus’ presented by Van Hear et al. 2018) is significant in this thesis. It provides comprehensive analytical tools to tackle and comprehend deeper structures of complex realities of migration.

Push-pull plus -theory delves deeper into drivers, attempting to explain why the 'driver' approach is stressed and chosen as a significant lense and perspective to apply in this context and with this data in this study. Van Hear, Bakewell and Long (2018) conducted groundbreaking research which introduces a novel perspective on how to understand the concept of 'drivers'. Van Hear et al. (2018) define drivers as “forces that lead to the initiation of migration and the continuation of movement.” Van Hear et al. (2018) investigated novel approaches to configure important migration drivers by analysing and visualising them.

The study adjusted current migration explanations and created a paradigm known as "push-pull plus" (Van Hear et al., 2018). The research team presents a new extended

approach to migration in this revised framework. The advantages of the "push-pull plus" technique are twofold: it provides extra sets of instruments (dimensions), and by integrating and structuring these factors and dimensions together, it provides even more perceptive knowledge (complex). The enhanced framework "Push-pull plus" incorporates a novel presentation of driver complexes, which introduces mechanisms on how drivers operate, interact and affect migratory behavioural patterns.

The study's practical application example presents the migration event between Iraq and Belarus (2021) as the primary case study in this research. Terminology, including; Predisposing drivers, proximal drivers, precipitating drivers, mediating drivers, dimensions, factors, configurations, and finally, complexes, are included in the instance presented in the thesis.

Following the examples offered by Van Hear et al. (2018), this thesis employs quantitative and open-source tools that utilise big data to provide even more insight into the specific drivers, aspirations, and wishes generated from the Google query phrases. This framework also includes potential global applications. As Van Hear et al. (2018) presented, this can be applied to evaluate the structural and conceptual factors forming migration between developed and developing countries and regions. One may argue that this thesis is an attempt to adapt and utilise the Push-pull plus' theoretical framework while also refining it by including quantitative features.

2.41 History and criticism

Considerable criticism towards the push-pull model does exist in academia. The model has been criticised for being considerably simplistic in structure and determinist by the approach (Skeldon 1990; de Haas 2011, as cited in Van Hear et al., 2018). Even though the relevant reasons to criticise are acknowledged in this thesis, the model appears helpful. Van Hear et al. (2018) evaluated the utility of the model by emphasising the simplicity and intuitiveness of the method. Van Hear et al. (2018), in addition, valued the

empirical approach to analysing processes, including structural and dynamic forces behind migration as a phenomenon.

As Van Hear et al. (2018) continue, their aim is to offer a more complete and detailed comprehension of the foundational mechanisms of migration as they seek to provide a more solid conceptual base for analysis. Hence the novel extended-term is being introduced as 'push-pull plus' (Van Hear et al., 2018). As all the complexities within a phenomenon named 'migration' continually confound academic, analytical and political expectations, estimations and forecasts, it is safe to assume that further analysis is justified.

In this more nuanced approach, this thesis explores the relationships between drivers of migration and how they are intertwined with the social, economic, political, cultural and environmental contexts. There have been previous efforts to systematise the complexity of these dynamics. Richmond (Richmond, 1994, as cited in Van Hear et al., 2018, p.931) presented the factors that are both enabling and constraining migration as '*reactive*' and '*proactive*' types. Further on, he identified factors that he named: '*enabling circumstances*', '*structural constraints*', '*predisposing factors*', and '*precipitating events*' (Richmond, 1994, as cited in Van Hear et al., 2018, p. 931).

Van Hear (1998) continued Richmond's work and, in modification of this approach, suggested that: "*predisposing, proximate, precipitating and intervening factors shaped what he termed 'migration orders'.*" (Van Hear, 1998, as cited in Van Hear et al., 2018, p. 931). This modification developed the conceptual framework further. It is necessary to elaborate on the role of factors in this new approach. The factors can be located in a variety of different spheres; social, economic, political, security, geographical or any other sphere. Over time, particular factors may change their effect (on individuals, communities, etc., the target group in question).

Previously, factors have been portrayed as having more fixed roles or being more solid entities on their own. The new approach suggested by Van Hear et al. (2018) views them

as more plastic and dynamic; factors may have a range of functions, which may fluctuate over time and act as drivers within migration processes. In summary: *Factors* are conditions which shape the form of migration, while *drivers* function as activated factors (Van Hear et al., 2018, p.931). In the following subchapter, the key *drivers* of migration are elaborated further.

2.42 Identifying drivers

Drivers are divided into four (4) different types/ sub-categories that are analytically distinguishable (Van Hear et al., 2018, pp. 930-933):

- 1) *Predisposing drivers*
- 2) *Proximate drivers*
- 3) *Precipitating drivers*
- 4) *Mediating drivers*

Each of the above-mentioned driver categories contains typical/distinctive subcategories within. Potential combinations and variations of these driver types constitute the circumstances and conditions and shape the environment where migrants make decisions on whether to conduct a migration or not. (Van Hear et al., 2018). Each actualised combination manifests itself by shaping the way migration actualises and how it actually happens.

2.43 Predisposing, proximate, precipitating and mediating drivers

Predisposing drivers (Van Hear et al., 2018, p. 931) are drivers that shape the context and pre-existing potential conditions where migration is more probable to happen. Predisposing drivers enable the conditions that increase the overall probability of migration to emerging. Predisposing drivers manifest themselves, particularly in observable *structural disparities*, which may be detected and then observed. Examples of these disparities include countries of origin and countries of destination. (Van Hear et al., 2018). These disparities involved in predisposing drivers are often on a macro-level

of circumstances and formed by the effects of global-scale macro-political economical conditions. These broader processes appear in macro-events such as environmental and climate changes, urbanisation trends, globalisation in general and other transformations in demographics. (Van Hear et al., 2018, p. 931)

Economic disparities (Van Hear et al., 2018, p. 931) between countries, regions and territories of origin and destination comprise discrepancies in income living standards and disparities of livelihoods measured. These may be shaped by currents of the global political economy, including the inequities as significant side products. Economic disparities are oftentimes seen as the leading “root cause” (in general terms) for economic immigration, labour-driven migration, or the claim implicitly entangled with the term “economic refugeeism”. It is essential to notice this difference between generalising (oftentimes in political discourse) term and more elaborated term which refers to a potential factor that developed into actualised drivers that are predisposing by nature, which can be based on a variety of different disparities, whereas economic disparity is one aspect of the complexity which consists of a network of a multitude of different elements, their inter-trans-intra-contra-independent relations. (Van Hear et al., 2018, p. 931)

Political disparities are manifested in conflicts, political turmoil, persecutions, structural oppressions and other dimensions of human rights, human securities (or lack of them). (Van Hear et al., 2018, p. 931) This particular structural disparity is often a significant/notable *predisposing driver* for humanitarian immigration, migration driven by paucity and insufficiency of humanitarian conditions and circumstances. This element is traditionally seen as the main driver for *asylum seekers*’ and *refugees*’ “root cause”, as in general terminology, since its apparent cause-and-effect relation to a direct threat to one’s life. (Van Hear et al., 2018)

Environmental disparities include uneven possession or access to natural resources such as fertile soil and water. Environmental disparities between sending and receiving countries are trending due to climate change. (Van Hear et al., 2018, p. 931)

Geographical factors contribute a significant effect and may also act as predisposing drivers. Proximity to borders and the desired destination are significant factors themselves. Notably, certain components and effects of geographical factors appear to be quantifiable, for example, numeric data concerning income and public expenditure related to education and health. (Van Hear et al., 2018, p. 931)

Proximate drivers have a more direct and apparent impact on migration. These drivers are derived from structural functions. Regarding the areas, regions and countries of origin, proximate drivers manifest themselves, e.g. in economic or business cycle downturns (Van Hear et al., 2018). Economic regression, downfall in the security or human rights, repressive power struggles, or even large scale forced displacement of people. Whereas in *countries and regions of destination*, opposite developments to aforementioned events can operate/function as migration 'pulling' proximate drivers. Economic upturns, societal improvements, available employment opportunities, business development and more access to affordable educational opportunities are some examples worth mentioning. (Van Hear et al., 2018, pp. 931-932)

Borderlines of these drivers are not always so solid; as Van Hear et al. (2018) point out, sometimes predisposing drivers may also function as proximate drivers. Whether it happens that some predisposing drivers become more acute (e.g. economic, political or environmental disparities), they may also become proximate drivers as a result of acute change or sudden escalation of pre-existing (predisposing-) tensions.

Precipitating drivers (Van Hear et al., 2018, p. 932) are drivers that actually trigger the departure. In the decision-making process of groups or individuals, precipitating drivers can act as the last push in the decision process. These drivers are frequently connected to identifiable events or events. Precipitating *events* can also be observed from the perspectives of the push side (countries and regions of origin) -events and of the pull side (countries and regions of destination).

On the push side, precipitating events include manifestations such as erupting conflicts, outbreaks of invasions, massacres and wars, including accelerated political oppression and persecution (Van Hear et al., 2018, p. 932). Events may also occur in the economic sphere and take the form of a financial turmoil, such as dramatic changes in unemployment and the availability of sufficient income. Events related to the disintegration of health, education or welfare services can also act as an event. Political events include sudden changes to the security sphere. Environment-related natural disasters, earthquakes, hurricanes, floods and similar large scale disasters can contribute to precipitating migrational trends.

From the perspective of the pull side, employment opportunities and a liberalised economic environment for business opportunities and other booming economic uptrends can act as catalysts for a precipitating event. In addition, Van Hear et al. (2018) elaborate how changes in immigration regulations, including regulations concerning family reunions, are examples which might precipitate occurring migrational trends.

Similarly to predisposing drivers, there exists a strong relationship with proximate drivers since the precipitating drivers may transfer their impact in terms of spillover effect. Unlike the previously mentioned two drivers, particularly the precipitative drivers can appear as observable developments or as identifiable events (Van Hear et al., 2018, p. 932). Even though these drivers in question tend to occur in places and regions of origin (as a push effect), they may occur in places of destination, too (a pull effect).

This thesis takes a closer look into this particular niche since the events of 2021 can partially be analysed as a precipitating driver, and the particular event related to Belarus and Iraqi migrants may have a connection to the relatively strong pull element in regard to the temporary relaxation of immigration controls that took place that can be seen as an anomaly to previous conventions. In this thesis, the chapters 'Results' and 'Discussion' these perspectives are taken into the spotlight and will be analysed further.

Mediating drivers' role can be twofold for migration; it can be increasing or decreasing. Mediating drivers may enable, facilitate, consolidate and accelerate migration as a '*positive*' force, but it may also act as a '*negative*' force or driver if constraining or even diminishing migration. (Van Hear et al., 2018, p. 932)

As a *positive* (mediating) driver, it may include elements related to resources that are enabling migration, ways of providing communication, information, transportation and other resources to support migrants for the journey and transit period. When acting as a *negative* (mediating) driver, it is the lack of above-mentioned resources and infrastructures: absence of transportation, an insufficient amount of resources and information necessary for migration. (Van Hear et al., 2018, p. 932)

The term referring to this phenomenon is often referred to as a 'migration regime', which has a strong role as a mediator and as an actor that enforces and aims to manipulate migration movements by regulating operations related and linked to the aforementioned drivers. The 'migration regime' includes a variety of actors and national and international organisations that aim to manage and regulate migration and which have a significant mediating function.

However, there is a considerable debate that is questioning and scrutinising how much influence the migration regime's policies actually have over controlling immigration, emigration, and border crossing of migrants (Castles, 2004; Czaika & De Haas, 2013, as cited in Van Hear et al., 2018, p. 932). Mediating drivers may occur and influence via other spheres also. Enabling and constraining drivers may manifest, for instance, in education, agriculture, rural development, welfare, housing and trade.

Migrant networks are one noteworthy example of an eminent mediating driver. Migrant networks (including social media networks) have a strong influence on encompassing migration. In addition, the networks of the smuggling industry may also play an essential role as a positive force in mediating drivers. (Bakewell et al., 2015) This specific niche of migrant networks is a considerable factor related to the theme of this thesis; how

accessible open-source information and information sharing in modern communication technology via social media platforms can be a remarkable mediating driver in certain manifestations of migration events.

This thesis examines one of the events mentioned above. In the Discussion part of this thesis, there will be a further and more thorough analysis of the case of Iraq and Belarus in 2021, applying and utilising the theory of push-pull plus; driver complexes in particular.

2.44 Dimensions of Drivers & Driver Complexes

After establishing a theoretical framework based on Van Hear et al. constitutional research on 'Push-pull plus', the next step is to refine the understanding of the drivers by taking a deeper analysis of drivers' inbuilt *dimensions* and how the drivers can be constituted and configured into '*Driver complexes*'. Thus, before getting into a complete picture of *driver complexes*, there is one more layer in the theoretical framework that needs to be explained; the *dimensions of drivers*.

Since the analysis of drivers themselves consisted of *functions* (predisposing, proximate, precipitating or mediating) of the migration progress and *domains* of the social realm, such as demographic structures, political sphere, historical pretexts, environmental and cultural elements, in addition to geography and economics. These elements can get us only so far in analysis (Van Hear et al., 2018). Hence, Van Hear et al. introduce one more layer; dimensions that comprise *locality*, *scale*, *duration*, *selectivity* and *tractability*. This additional layer, element or perspective, aims to answer questions of what the driver does or how it operates. This further analysis seeks to tell us something about how the drivers work.

Locality: Certain drivers may be associated more with spatial locating than others. For example, place of origin and demographic and environmental pressures are spatial and *local* dimensions. Other drivers may be more centred on the area or region of destination, such as immigration policies. The element of geographical proximity is a dimension that affects the journey -part of the migration process. (Van Hear et al., 2018, p. 933)

Scale: Van Hear et al. consider two different *scales* under which drivers operate within. In addition to the locality dimension, drivers have an ability to affect on separate *spatial scales*; the global, regional, national or local scales (Van Hear et al., 2018). A civil war might be an event that includes a large-scale influence on a spatial dimension; it may force people to move on a larger scale, regionally and even on a global scale. On the other hand, drivers do take effect on a variety of separate *social scales*: Such as a communal, family, household, or even an individual level. Notably, this includes broader social scales within the same framework. For example, a famine may affect people's migration on a broader social scale. (Van Hear et al., 2018, pp. 933-934)

Selectivity: There is an apparent variance within drivers' coverage in a range of different social groups. A particular driver may have a different impact on other social groups. These social groups may be defined according to their; *gender, class, generation, ethnicity, language, and religion*. For instance, drivers including education-related components in positive migration destinations may be more appealing to young migrants. Whereas civil wars and prolonged/ protracted political turmoil may affect relatively more migration aspirations in the young male segment of the population, partially due to young males are often forcibly conscripted to the militias operating in the conflict. (Van Hear et al., 2018, p.934)

Duration: This dimension examines the timeframe where drivers operate. An acute conflict may force many people on the move rather rapidly, and conversely, a chronic crisis can cause a more permanent exodus lasting a longer duration of time. Notably, the focus can exist simultaneously with the driver whilst not being on the same scale of migration in numbers. Even more short-term, more acute drivers might cause a more permanent type of migration, while the longer-term driver might result in periodic and more sporadic bursts or even back and forth movement of migration. Some chronic, long-term migrations might be compounded to become more infrastructured, which again is closely connected to the characteristics of predisposing drivers' *modus operandi*. (Van Hear et al., 2018, p. 934)

Tractability: Some drivers include features that are more or less tractable. This dimension aims to distinguish features that either operate on the surface of society and those that are more deeply embedded in the culture or practices of a society and thus more intractable. For instance, the driver may contain a culturally embedded meaning, as in cases where staying out from an individual's original community can be an important milestone in a ritual of transformation into adulthood. More tractable drivers can change more rapidly by contextual shifts, such as changes in the economic sphere which are more fluctuant and thus reflect more political changes, employment and immigration policy rulings. (Van Hear et al., 2018, p.934)

The theory of Van Hear et al. (2018) operates as a theoretical framework, through which this thesis will examine the qualitative analysis segment.

This thesis applies mixed methods (Quantitative - Qualitative) and the 'Push-pull plus' theoretical framework, and particularly the analysis of drivers and driver complexes will be applied and utilized when refining results from the data.

2.45 Constellations of Drivers

The so-called '*culture of migration*' may also be a related factor that can occur and influence groups and communities that are historically developed and habituated to mobility (en masse) (Cohen & Jónsson, 2011, as cited in Van Hear et al., 2018, p. 932). This structural element can also be called '*migration infrastructure*' (Xiang & Lindquist, 2014, as cited in Van Hear et al., 2018, p. 932), which may contribute to the production of '*would-be migrants*', those who are potential migrants by cultural environment and contextual circumstances but who do not necessarily actualise the migration potential (Xiang, 2014 as cited in Van Hear et al., 2018, p.932).

There may be relatively more aspirations for migration (stronger tendency) due to historical events and because of socio-economic structures that are more enabling

elements that contribute to the positively mediating migration drivers. These components can be structured historically and conventionalised so that some academics label them as 'culture of migration' or 'migration infrastructure'. The aforementioned historical, cultural or infrastructural tendencies may not be as solid or apparent nor measurable when analysing a migration event, but it is crucial to be aware of these elements as background tensions. (Van Hear et al., 2018, p.932)

Nevertheless, mediating drivers do entail a substantive feature in determining the directions, formations and volumes of migration trends (Van Hear et al., 2018). These decisions that are made individually, within families, extended families, groups and communities are fundamentally elaborating a decision-making process that consists of a variety of microdecisions. These microdecisions consist of the aspirations to migrate, deciding on how to move, time of departure, what part of family, community or group members should leave, and who should stay behind. How the journey will be planned; advantages and disadvantages, contingencies, and plans after the chosen migrant or migrants arrive at their hoped-for destination; what will happen to them, and how can those who are left behind be assisted. (Van Hear et al., 2018, p. 932)

The development can be described as follows: The complexity forms from constellations of various drivers that occur concurrently and simultaneously and thus create circumstances and frames for conditions, which provides people with a framework where decisions of migrating can be made. Cultural elements which contribute to aspirations of migration and structural or infrastructural conditions can not solely explain migration. Every migrational event is a unique constellation, a manifestation of a series of particular decisions and actions that individuals make, and hence actualise some of the potential mobility into reality in different shapes, forms, intentions, aspirations, hopes and fears that form the collective action called migration. (Van Hear et al., 2018, pp. 934-935)

These micro-level decisions and actions are formed for a variety of reasons, such as socioeconomic class, gender, generational position and ethnicity. The complex codependency between environmental, structural conditions and the agency: the

questionable position of being a social actor is a topic for long-lasting debating. (Bakewell, 2010, as cited in Van Hear et al., 2018)

This thesis will employ the aforementioned categorical abstractions as tools in order to systematise some of the complexities of the phenomena of migration, which manifests itself in a variety of ways. Because the world of migration is so complicated, our effort to systematise it may appear to mirror that complexity, yet it tries to remain comprehensive.

3. METHODOLOGY

3.1 Mixed Methods Research (MMR)

Mixed Methods Research (MMR) aims to collect, analyse, and mix both quantitative and qualitative data in a single study or alternatively in a series of studies. (Creswell & Plano Clark, 2018, pp. 2-5). The key idea of this method is that combining quantitative and qualitative approaches yields a more comprehensive knowledge than either approach alone (Creswell & Plano Clark, 2018, pp. 2-5).

The goal of MMR is to gather and analyse both quantitative and qualitative information. The balance and emphasis of the two datasets can vary; in practice, the MMR technique may prioritise one or both types of data. MMR might be a standalone study or a series of phases within a larger study. In this thesis, the quantitative part precedes the qualitative data. (Creswell & Plano Clark, 2018, p. 2-3)

The objective of quantitative data analysis is to enable and establish the validity of a given case study, as well as to demonstrate that general level nowcasting of migratory flows is achievable as an independent element. The quantitative analysis is followed by qualitative analysis, which establishes links to migration-related queries. As a result, even though they're in order, they're both valuable in their own right and compensate each other. (Creswell & Plano Clark, 2018, pp. 1-5)

MMR aims to compensate for the latent flaws of both qualitative and quantitative research methodologies by combining their strengths. The quantitative research approach has the advantage of being able to process a large sample study, but it also has the disadvantage of being overly generalising. This particular characteristic or flaw could be problematic, particularly when used in social studies research. Qualitative research may provide additional details and in-depth analysis, but the lower sample numbers might be constrained, especially in the context of a master's thesis's structure and length. (Creswell & Plano Clark, 2018, pp. 1-5)

As a result, the MMR method provides an opportunity to combine these two in a variety of mixtures; this method may provide a solution where larger sample sizes can be processed, and from those quantitative results, qualitative analysis can be conducted to provide a more detailed, in-depth perspective. (Creswell & Plano Clark, 2018, pp. 1-5)

When one data resource is insufficient or early results need to be explained any further, a mixed-method approach may be required. A secondary method may be required to supplement or improve a primary approach in some instances. A research project may also have numerous phases, each requiring a particular methodological approach, as some examples have shown. Several aspects must be considered when analyzing the requirement to choose an acceptable design for mixed methods research. (Creswell & Plano Clark, 2018, pp. 1-5)

3.11 The nature of MMR

What is an advantage and features of Mixed Methods Research (MMR) that entices researchers to use it? There appear growing numbers of scientific articles, academic literature, and the development of a professional association, and also a special interest group all attest to its popularity (Creswell, 2010; Palacios, 2014; Plano Clark, 2010, as cited in Creswell & Plano Clark, 2018, p. 1).

On other occasions, MMR has been dubbed as the "third methodological movement" (Tashakkori & Teddlie, 2003, as cited in Creswell & Plano Clark, 2018, p. 1) or even as the "third research paradigm" (Johnson & Onwuegbuzie, 2004, as cited in Creswell & Plano Clark, 2018, p. 1), and "a new star in the social science sky" (Mayring et al., 2007, as cited in Creswell & Plano Clark, 2018, p. 1). Why is it deserve such praise? What is the nature of MMR that offers an apparent advantage compared to other available methods? One answer can be found in this approach. Mixing methodologies can be seen as a natural, more intuitive manner of conducting research, more similar to the way how we experience our daily lives. (Creswell & Plano Clark, 2018, p. 1)

In these cases, we observe mixed-methods thinking in the form of "multiple ways of seeing and hearing," as described by Bliss (Bliss, 2008, as cited in Creswell & Plano Clark, 2018, pp. 1-2). Mixed methods research gives different approaches to handle a research subject in the same way as multiple ways are visible in everyday life. Other reasons also contribute to blended techniques' popularity. Even though this particular thesis might not be the best example of intuitive everyday life -type of research question, MMR offers a suitable approach for this thesis. It is recognized by researchers as a user-friendly method of investigation. There exist research questions (and issues, dilemmas) that are more suitably solved utilising mixed methodologies. When applying the MMR model, a researcher should understand the benefits of the method without neglecting the apparent limitations included (pp. 1-2).

The first step in employing mixed methods when conducting a research is to grasp the nature, intention and structure of mixed methods research. This aspect may be built on one's intuition for combining and comparing both quantitative and qualitative data. This chapter briefly discusses the mixed methods research technique before presenting one specific strategy inside the framework of the mixed methods. This particular strategy, known as Explanatory Sequential Design (ESD), is a method that is tailored to the demands and objectives of this particular study.

3.12 Defining MMR

Over time, several definitions for MMR have arisen, each incorporating different aspects of methodologies, research processes, study objective, and philosophy. An early attempt to define mixed methods emphasized the combination and mixture of methods, deconstructing the conventional structure of methods and philosophical perspective (Greene et al., 1989, as cited in Creswell & Plano Clark, 2018, p. 2).

One of the definitions (Greene et al., 1989, as cited in Creswell & Plano Clark, 2018, p. 2) portrays the mixed-method designs in a structure, which includes a quantitative method (purpose for collecting numeric data) and a qualitative method (purpose for collecting semantic data). This definition is similar to the research strategy applied in this study: the study is divided into two different entities that, when combined, form a larger canvas of investigation. The first section, the quantitative section, collects data. The existence of specific figures attests to the research's foundation and importance. The second section gathers words. The semantic analysis uses these words as a starting point.

Later on, mixed-method research gained a better grasp, and it began to embrace more varied perspectives into its sphere. As another definition describes the methodological strategy: the MMR combines elements both from qualitative and quantitative traditions and approaches, aiming for deeper understanding. The combination of the methods applies both quantitative and qualitative methods for collecting and analysing data. (Johnson et al., 2007, as cited in Creswell & Plano Clark, 2018, p. 3).

In their pursuit of a full definition of mixed-method research and its essential qualities, Creswell & Plano Clark (2018) went even further. According to Creswell and Plano Clark, in mixed methods research, the researcher: a) Collects and analyses both qualitative and quantitative data rigorously in response to research questions and hypotheses, b) integrates (or mixes or combines) the two types of data and their results, c) organises these procedures into specific research designs that provide the logic and procedures for conducting the study, and d) frames these procedures within theory and philosophy. They

believed that these essential qualities appropriately described mixed-method research. (Creswell & Plano Clark, 2018, p. 5)

3.13 Experimental study testing a hypothesis

Experimental studies are used to determine the efficacy of a treatment in achieving specific results. In some cases, an experimental study might be supplemented with a secondary qualitative research approach to provide a better understanding of particular aspects of the intervention. In this particular case, the qualitative approach might be incorporated into a primary experimental design. Mixed methods research yields unique insights that go beyond traditional quantitative and qualitative findings. Researchers obtain fresh knowledge, which may be more than a mere sum of the two individual components of the equation, by integrating both of the methodologies. MMR gives the research equivalent of equation $1 + 1 = 3$ (Fetters & Freshwater, 2015, as cited in Creswell & Plano Clark, 2018, p. 13).

In this thesis, the qualitative analysis section could not be validated or produced without the data provided by the quantitative section that precedes the qualitative one. Mixed methods research bridges the gap between quantitative and qualitative researchers, which is often antagonistic. We are first and foremost social, behavioural, and human sciences researchers, and dividing quantitative and qualitative research simply serves to constrain our methodologies and collaboration options.

3.2 Explanatory Sequential Design (ESD)

For some years, literature on mixed methods designs has been more focusing on sequential approaches, referring to them as the sequential model (Tashakkori & Teddlie, 1998, as cited in Creswell & Plano Clark, 2018, p. 77), "sequential triangulation" (Morse, 1991, as cited in Creswell & Plano Clark, 2018, p. 77), "qualitative follow-up approach" (Morgan, 1998, as cited in Creswell & Plano Clark, 2018, p. 77), and "the iteration design" (Greene, 2007, as cited in Creswell & Plano Clark, 2018, p. 77). Although these terms

refer to any sequential two-phase strategy, there are some approaches that differentiate whether the sequence of the chosen methodological structure begins either quantitatively or qualitatively (Creswell et al., 2003, as cited in Creswell & Plano Clark, 2018, p. 77).

The ESD model is a specific approach, selected case-specifically. This particular version of the MMR model is chosen when a researcher does a quantitative phase and then conducts a qualitative phase in order to assist in explaining the quantitative findings. The qualitative phase is used to provide more context for the first results, and the design's name (explanatory) describes how the qualitative data collection and analysis phase assists in understanding the distinctively different quantitative results.

3.21 The intent and philosophical assumptions

The primary goal of this strategy is to employ a qualitative phase with an aim to help explain the initial quantitative findings. For instance, the ESD is a suitable choice if a researcher requires qualitative data for explaining quantitatively relevant (or nonrelevant) results, positive results (concerning any potential hypothesis), outliers, or even surprising and unexpected outcomes (Bradley et al., 2009; Morgan, 2017; Morse, 1991, as cited in Creswell & Plano Clark, 2018, p. 78).

Important note on the philosophical assumptions employed in the design of the structure of the ESD model: There are two distinct philosophical assumptions that can assist the deployment of an explanatory design. Because this particular design has a quantitative beginning in the research, the study topic and objective may require a stronger emphasis on quantitative components, but this is not always the case, as with the 'case-selection' form of an explanatory sequential design. (Creswell & Plano Clark, 2018, p. 78)

While this approach might encourage a researcher to adopt a postpositivist perspective and emphasize the importance of the first quantitative section, this research employs two distinct assumptions included in each phase. Whether a research begins quantitatively, it

begins from a postpositivist perspective, selecting instruments, measuring variables, and evaluating statistical results. (Creswell & Plano Clark, 2018, p. 78)

When the investigation enters the qualitative phase, which emphasises numerous aspects and descriptions, the emphasis shifts to constructivism's assumptions (semantic analysis). As researchers employ numerous philosophical views, the general philosophical assumptions in the design can evolve from post-positivist to constructivist. The final interpretation of these two distinctive phases and their results might therefore be based on either one or both sets of assumptions. (Creswell & Plano Clark, 2018, p. 78)

3.22 Variants of ESD

The approach is less prevalent in this study and is referred to as the "case-selection variant" of sequential design. In contrast to the most frequently used prototype "follow-up explanations version," the case-selection variant prioritizes the second qualitative phase above the initial quantitative phase. Additionally, this type is referred to as a preliminary quantitative input design (Morgan, 2017, as cited in Creswell & Plano Clark, 2018, p. 82). This variation is employed when the researcher wants to examine a phenomenon qualitatively but requires preliminary quantitative data in order to identify and consciously pick the best participants. (Creswell & Plano Clark, 2018, p. 82)

3.23 Applying ESD

The quantitative data and the followed results paint a broader overall image of the research question (is this apparatus functional, is the hypothesis true, and if yes, in which attributes), whereas the qualitative data and analysis clarified and aimed to explain those statistical findings by delving deeper into the query makers' personal perspectives and subjective voices (drivers). This research must first provide a broad picture and statistically significant findings before determining which quantitative findings should be further investigated using the qualitative strand. (Ivankova & Stick, 2007, as cited in Creswell & Plano Clark, 2018, p. 85)

To begin, defining the broad picture, the frame of reference; migration from A to B. From selected migrational data, statistically meaningful conclusions are generated. Then, while examining the query quantity to determine if there is a correlation, if there is a correlation, then the keywords in the searches performed throughout the correlation time frame should be examined. Then, these keywords are further explored and analysed. As such, the study employs a sequential approach, with quantitative approaches adopted initially and qualitative methods implemented later.

This study focuses on deeper layer interpretations of the presented results acquired in the first step of quantitative analysis (using the framework of push-pull-plus-drivers), and it entails substantial multi-phase data collection from numerous sources and a case analysis done in two phases. The second phase's primary focus is on qualitative data analysis and discussion. The quantitative phase's results are utilised to a) highlight the existing correlation between migrational events and peak in search engine searches; and b) extract the most frequently used terms in the queries from a very short time frame for study in the second, qualitative phase.

The use of the quantitative phase: This also enables the qualitative phase's findings to be connected in order to help understand the underlying motivations for the quantitative phenomena (the sudden rise of migration) in question. By connecting the results by discussing the quantitative phase's results alongside the qualitative phase's results, additional insights are gained that help explain the quantitative outcomes ('root causes') in greater detail. Not to mention that the keywords studied in the most popular queries can be used in subsequent research for the quantitative phase's data material.

The study's notation can be worded as follows: quan → QUAL = explain significant factors and drivers. Due to the fact that the study is structured in two separate phases, where the qualitative phase depends on the results of the first quantitative step (keywords explored and extracted from queries), this study is an illustration of the explanatory

sequential mixed methods design, and more precisely, the case-selection variant of this design. (Creswell & Plano Clark, 2018, pp. 82-84)

3.24 Diagram for ESD

In this simplified diagram (Ivankova & Stick, 2007, as cited in Creswell & Plano Clark, 2018, p. 85), the blueprint for the study is presented. Two distinctive phases (quantitative and qualitative) are divided and connected by a stage named 'Case selection' (step 3). Both phases are divided into data collection and data analysis steps:

Phase	Procedure	Product
1) QUANTITATIVE DATA COLLECTION	<ul style="list-style-type: none"> ● GTI - Google Trends Index ● Related keywords appearing in Google search queries ● Search Engine Optimisation (SEO) data ● Migration data 	<ul style="list-style-type: none"> ● GTI - Index: 0-100 ● Related keywords/ search queries: 0-10 ● SEO data: Related keywords: 0-50 ● Migration data: Numeric data
2) QUANTITATIVE DATA ANALYSIS	<ul style="list-style-type: none"> ● Analysing numeric and semantic data ● Information related to the case studied 	<ul style="list-style-type: none"> ● Confirming whether the numeric data corresponds with other information ● Correlation between GTI and actual migration
3) CASE SELECTION: Search Engine Query Keyword Analysis	<ul style="list-style-type: none"> ● Filtering (N) amount of keywords extracted from the queries explored ● Selection protocol and process reflecting theoretical framework 	<ul style="list-style-type: none"> ● Queries /Keywords ● Semantic data related to the case
4)	<ul style="list-style-type: none"> ● Presenting the 	<ul style="list-style-type: none"> ● Text data (keywords

QUALITATIVE DATA COLLECTION (Results)	findings of relevant and related semantic data	from queries) <ul style="list-style-type: none"> Raw semantic data before analysis
5) QUALITATIVE DATA ANALYSIS (Discussion)	<ul style="list-style-type: none"> Cross-thematic analysis Analysis of the semantic data in reference to the theoretical framework 	<ul style="list-style-type: none"> Driver Categories and Sub-categories Utilise the presented theories as to the lens and framework for the qualitative analysis
6) INTEGRATION OF THE QUANTITATIVE AND QUALITATIVE RESULTS (Conclusion)	<ul style="list-style-type: none"> Interpretation and explanation of the quantitative and qualitative results 	<ul style="list-style-type: none"> Discussion Implications Future research The overall succession of the hypothesis and the 'Apparatus.'
Phase	Procedure	Product

(Diagram applied and modified from the original model presented by Ivankova & Stick, 2007, as cited in Creswell & Plano Clark, 2018, p. 85)

The quantitative data collection and analysis procedure of the first quantitative phase are presented in the first two steps (step 1, step 2). The connection from the quantitative phase to the qualitative phase proceeds through the case selection step (step 3). The qualitative data collection and analysis procedure of the latter qualitative phase are presented in the latter two steps (step 4, step 5). The last step (step 6) serves as an integrative, final step. Its purpose is to conclude the thesis. (Ivankova & Stick, 2007, as cited in Creswell & Plano Clark, 2018, p. 85)

4. QUANTITATIVE DATA COLLECTION

This research drew on a variety of data sources. The Google Trends database, Google Keyword Planner, and migration data published by case-specific immigration

organisations serve as primary data sources for this thesis. Additionally, Search Engine Optimization (SEO) data filters are used to filter data from Google's database.

4.1 GOOGLE DATA

Google Trends serves as a database which tracks the volume of Google searches (Tuhkuri, 2015). It indicates the number of searches conducted on specific search terms in comparison to the total number of Google search queries conducted during the same period of time and in the same geographic area. This is accomplished by analyzing a subset of Google's web searches. Google collects data through the use of IP addresses. (Tuhkuri 2015, pp. 1-3; Google Trends, 2021)

Google Trends, on the other hand, does not elaborate the precise number of search queries done using a particular keyword. However, it provides an index which indicates an index number which correlates to the relative searching activity on weekly periods (Tuhkuri, 2015; Google Trends, 2021). Google Trends data has been available on an open-source basis since 2004. This index will henceforth be referred to as Google Trends Index (GTI). As a conclusion, this data set provided by Google contains the results of searches done in the Google search engine. (Tuhkuri 2015, pp. 1-3; Google Trends, 2021)

This section, which deals with data extracted from the Google database, is divided into three sections:

- 1) Case-specific search term prevalence in Google Trends dataset.
- 2) Variables constructed by Google Trends data; Related search terms.
- 3) Further SEO analysis for further related search terms accompanied by numeric data.

The underlying hypothesis of this thesis is to determine whether migrational nowcasts and forecasts can be improved through the use of analysing Google search databases. Additional topics not related to migration are also possible topics for research and have

been investigated. For example, a study forecasting unemployment in the United States (Tuhkuri, 2005, pp. 1-3) used an essentially identical method.

The volume of queries done in Google Search Engine is substantial; for a researcher to utilise Google data, a filtered selection of which specific terms to use must be made. As a result, the method will compile a list of relevant and case-specific query keywords for comparison with official migration statistics. The variables in this thesis are chosen according to the case selected for this study.

4.2 CASE: IRAQ - BELARUS MIGRATION TREND 2021

EVENT: Belarus-European Union Border Crisis 2021

TIMEFRAME: 2021

QUERIES DONE IN: Iraq

LANGUAGES: English, Arabic

QUERY TYPES: "Search term", "Country in Europe", "Topic"

RESULT TYPES: "Interest over time", "Interest by subregion", "Related topics."

QUERIES:

Belarus (Search term)

Belarus (Country in Europe)

بييلاروسيا (= eng. Belarus) (Search term)

Lithuania (Search term)

Lithuania (Country in Europe)

ليتوانيا (= eng. Lithuania) (Search term)

Poland (Search term)

Poland (Country in Europe)

بولندا (= eng. Poland) (Search term)

4.21 CASE DESCRIPTION

The case chosen for this thesis was chosen based on a number of criteria. Due to the fact that this is a simplified example, the hypothesis of an apparatus, the attributes and variables included in this example are kept simplified. As a result, the so-called 'Belarus-European Union border crisis' serves the thesis's purpose. A sizable proportion of migrants originate in the same country (Iraq), where internet, Google, and online searches are relatively common. Additionally, because this event occurred recently, there is raw open-source data available, even if comprehensive official data and research are not available in all aspects.

This migration trend is also directed initially toward Belarus and then elsewhere. The existence of these characteristics enables the conduct of this research. The case presents a migrational event which occurred between Iraq and the EU in 2021. The event resulted in an influx of migrants from the Middle East and Africa (mainly from Iraq) into the EU. Many of the migrants aimed to cross a border from Belarus to Lithuania, Latvia, or Poland. (Wikipedia b, 2022)

The event was enabled by the Belarusian government with an assist from the Russian government. Enabling migration was a hybrid campaign to pressure the EU countries by manipulating a migrant influx. The hybrid campaign was a result of political turmoil in Belarus, which resulted in measures taken against Belarus. Belarusian president Alexander Lukashenko retaliated against the measures by the EU by launching a hybrid campaign in the form of a migrant influx. (Atlantic Council, 2021; the Guardian, 2021; Wikipedia b, 2022)

It appeared as though the majority of migrants come from fairly distinct ethnic groups. Iraqi Kurds and Yazidi religion members constituted the largest group of reported migrants. (LRT, 2021; Washington Post, 2021) Iraqis allegedly purposefully exploited the

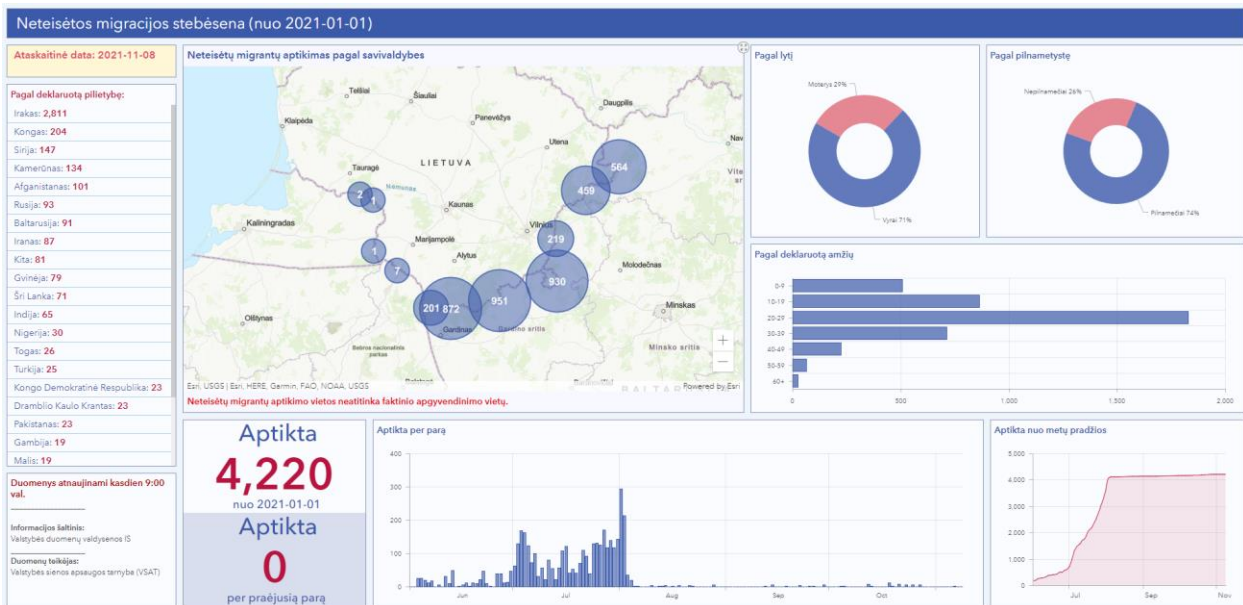
political tension between Lithuania and Belarus in order to gain entry to the European Union, according to the CBC (2021) investigation.

Additionally, Iraqi television repeatedly broadcasted Lukashenko's statements approving of migration to the EU. The news of Belarus-EU tensions sparked widespread discussion in Iraq. (CBC, 2021) Syria also reported a high level of interest in news stories about possible migration to the EU. Additionally, Belarusian authorities were reported to have spread fake news intending to attract migrants and encourage their migration to the EU.

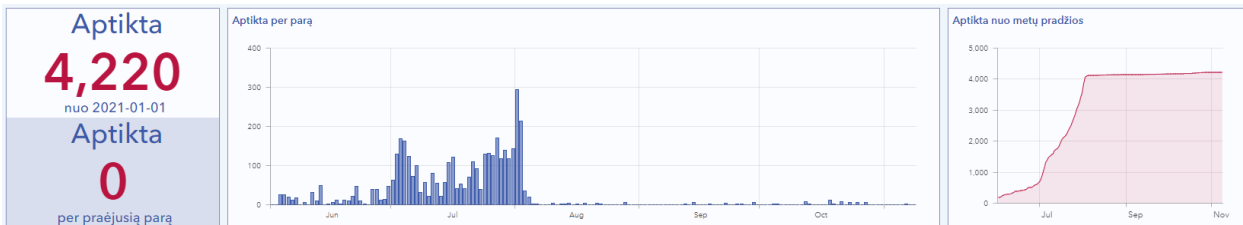
As a consequence, word spread among Iraq's population that a gateway to Europe is now open via Belarus and then via a border crossing to Lithuania, Poland, and Latvia. As demonstrated by the case of Lithuania, this event had a profound effect on the number of migrants. Prior to the crisis, the average number of illegal migrants crossing into Lithuania via Belarus was around. Consequently, the number of recorded migrants who were detained increased to approximately 470 in June 2021 and then to thousands the following month. (Washington Post, 2021)

A commonly accepted explanation is that the campaign has been orchestrated by Belarusian officials. Belarus was accused of facilitating the migration influx from Iraq to Lithuania's border by organising migrant groups and providing them assistance in crossing the border. In addition, there has been accusations that Belarusian travel agencies have been assisting illegal migrants. (Wikipedia b), 2022) The majority of refugees originated from Iraq, but they also included migrants from other countries of the Middle East and Africa. (FT, 2021; AP, 2021; Washington Post, 2021) Their final destination is frequently Germany. (DW, 2021).

As stated in the report (Image 1) published by the Lithuanian Department of Statistics (2021), it is obvious how the situation developed, escalated, and finally ended when Lithuanian authorities closed the borders:



(Image 1)



(Image 2)

It is also worth noting that these statistics corroborate the evidence that the majority of migrants attempting to cross the border into Lithuania were Iraqi nationals: Iraqi nationals accounted for 2811 of the 4220 reported cases.

4.3 GTI: Google Trends Index

Google Trends data is publicly available (Google Trends, 2021) and has been updated daily since January 10, 2004. The database stores a time series of the search intensities associated with the user's selected keywords. The GTI can be restricted geographically, chronologically, or by a set of predefined general search categories such as; Poland (Country in Europe), Poland (Search term), Border (topic), or Airplane in the current version of Google Trends (Transportation mode).

To operationalise the GTI for our specific application and setting, we must address two pragmatic issues concerning the extraction of this data: which specific keywords are to be selected and what is the pre-selected language in which to extract them. Existing research indicates a great deal of variation in terms of keyword selection. (Böhme et al., 2020) The number of keywords chosen varies according to the empirical context. There are multiple additional ways to create more accurate 'composite indexes' based on a variety of the most frequently used keywords related to migration and migration intents. (Google Trends, 2021)

However, keeping in mind the constraints of a master's thesis and the fact that this used example is a simplified version of this hypothetical apparatus, we will use only one category of a keyword: the destination country's name. There are additional ways to create more accurate 'composite indexes' based on a variety of the most frequently used keywords related to migration and migration intents. However, due to the limitations of this work and to simplify the example, we use only the destination countries' names.

4.31 GTI subcategories

The Google Trends search tool mentions the following details and descriptions. These descriptive details shed light on the meaning of each category. This GTI analysis method identifies three distinct data categories: a) "Interest over time", b) "Interest by subregion", and c) "Related topics". Each category is fundamentally distinct from the others, despite the fact that they all examine the same keyword query;

a) Interest over time: specifies the time period and GTI changes during the timeframe:

Interest over time

Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term." (Google Trends, 2021)

b) Interest by subregion: may provide insight into the area or specific location in which the queries are made and how they are spatially distributed:

Interest by subregion

See in which location your term was most popular during the specified time frame. Values are calculated on a scale from 0 to 100, where 100 is the location with the most popularity as a fraction of total searches in that location; a value of 50 indicates a location that is half as popular. A value of 0 indicates a location where there was not enough data for this term.

Note: A higher value means a higher proportion of all queries, not a higher absolute query count. So a tiny country where 80% of the queries are for "bananas" will get twice the score of a giant country where only 40% of the queries are for "bananas"." (Google Trends, 2021)

c) Related topics: may provide insight into the other topics, queries, and keywords that users searched in addition to the original query:

Related topics

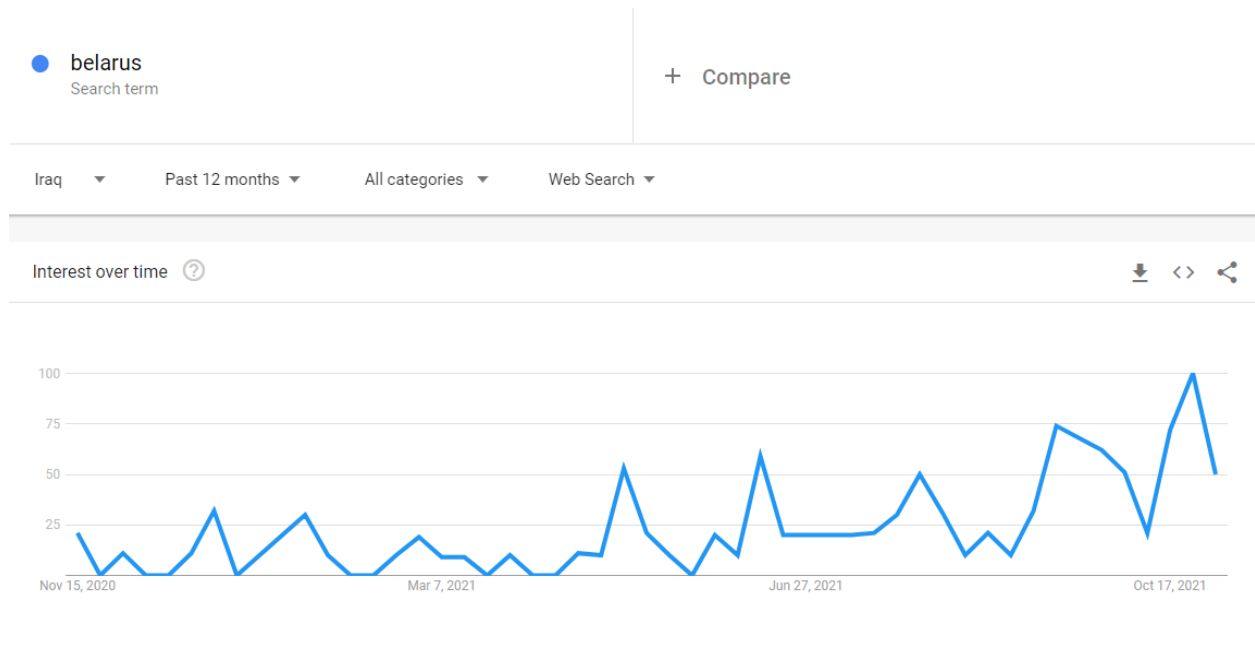
Users searching for your term also searched for these topics. You can view the following metrics:

** Top - The most popular topics. Scoring is on a relative scale where a value of 100 is the most commonly searched topic, a value of 50 is a topic searched half as often as the most popular term, and so on.*

** Rising - Related topics with the most significant increase in search frequency since the last time period. Results marked "Breakout" had a tremendous increase, probably because these topics are new and had few (if any) prior searches."* (Google Trends, 2021)

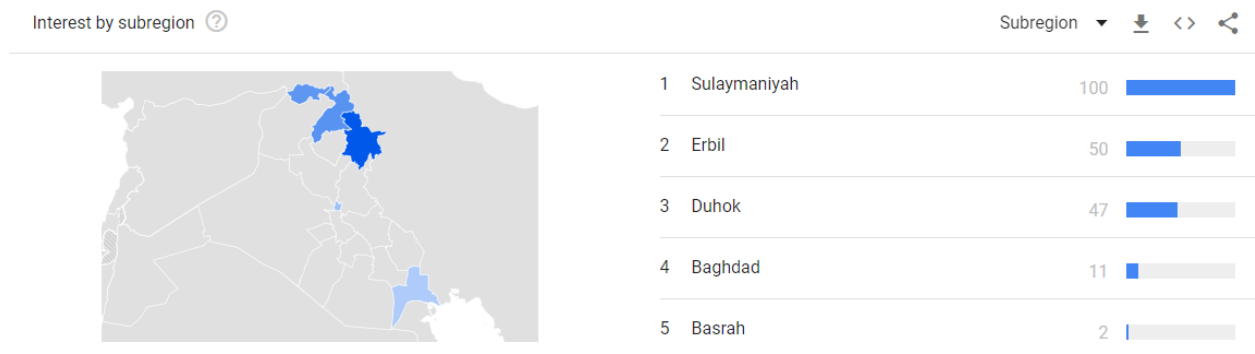
4.32 GTI CASE STUDY: BELARUS

Belarus (Search term): Interest over time:



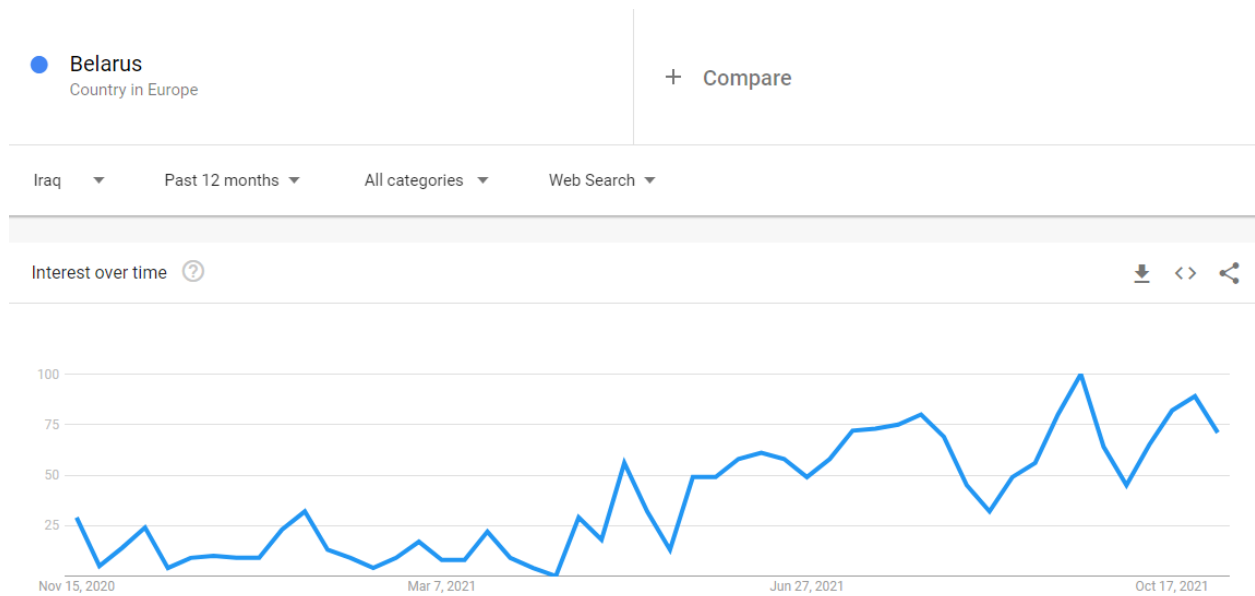
(Google Trends, Belarus a, 2021)

Belarus (Search term): Interest by subregion:



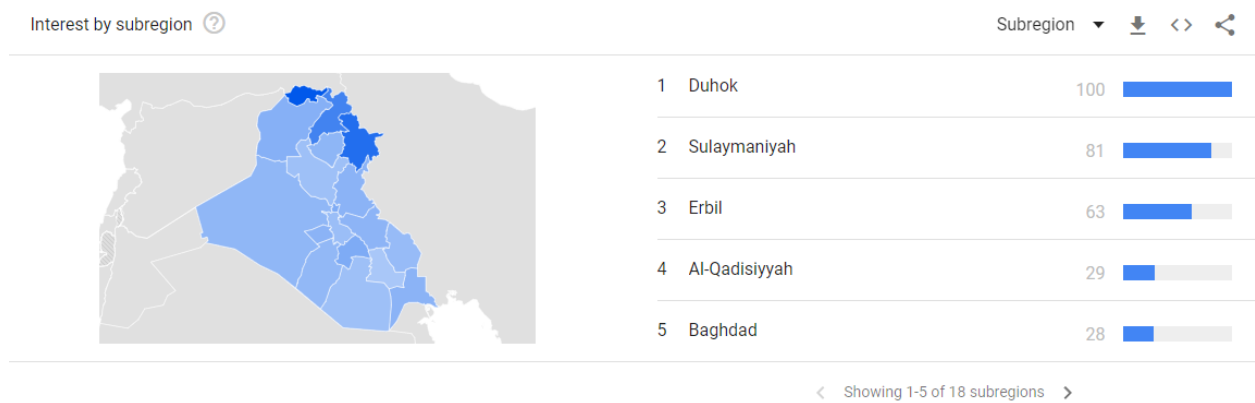
(Google Trends, Belarus a, 2021)

Belarus (Country in Europe): Interest over time:



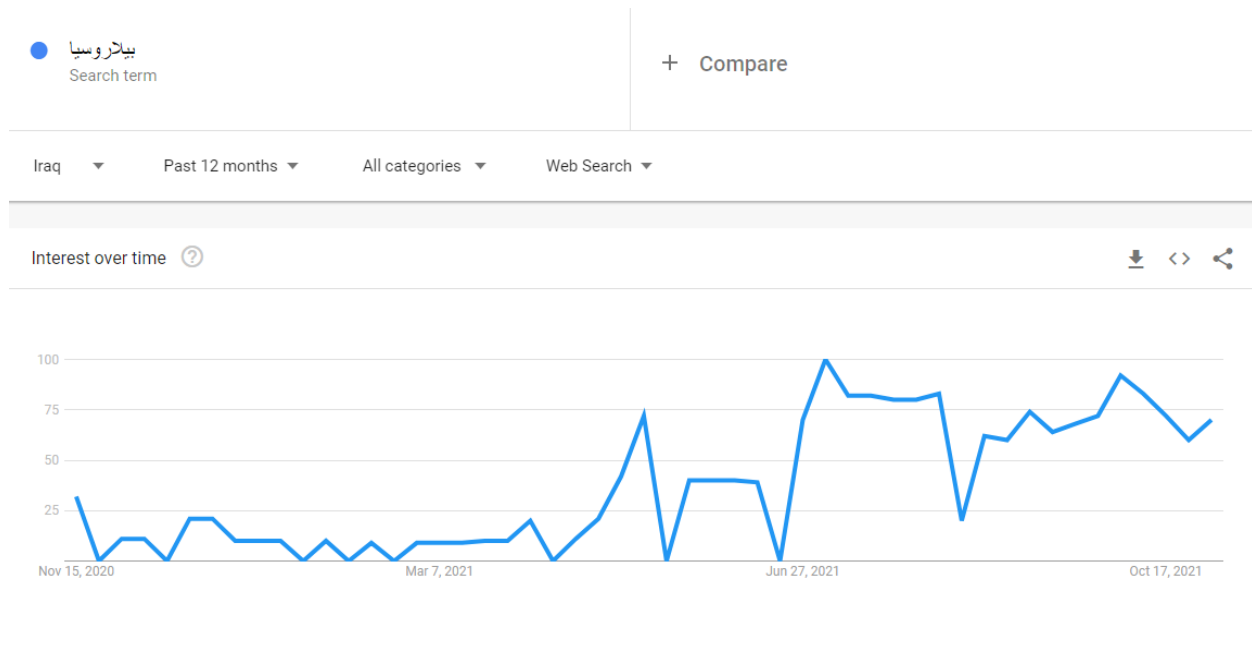
(Google Trends, Belarus b, 2021)

Belarus (Country in Europe): Interest by subregion:



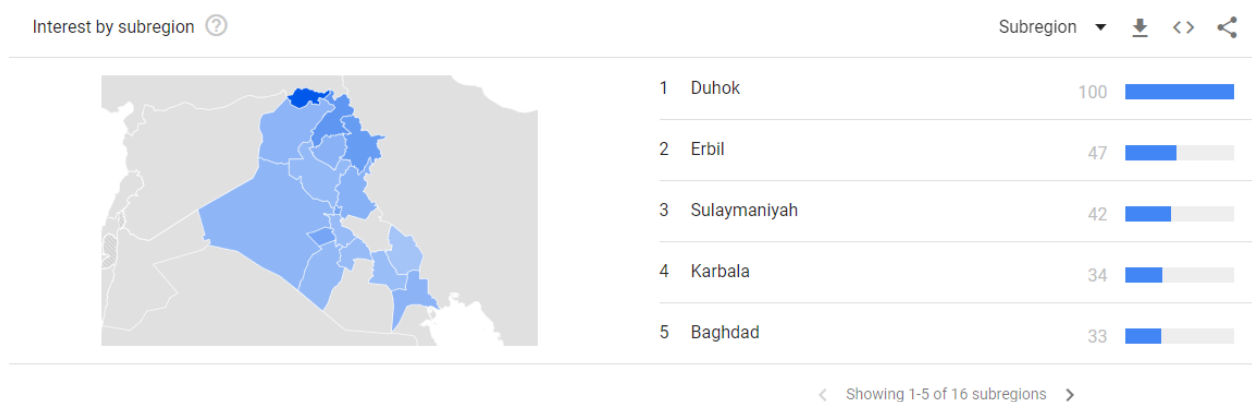
(Google Trends, Belarus b, 2021)

بيلاروسيا (Search term): Interest over time:



(Google Trends, Belarus c, 2021)

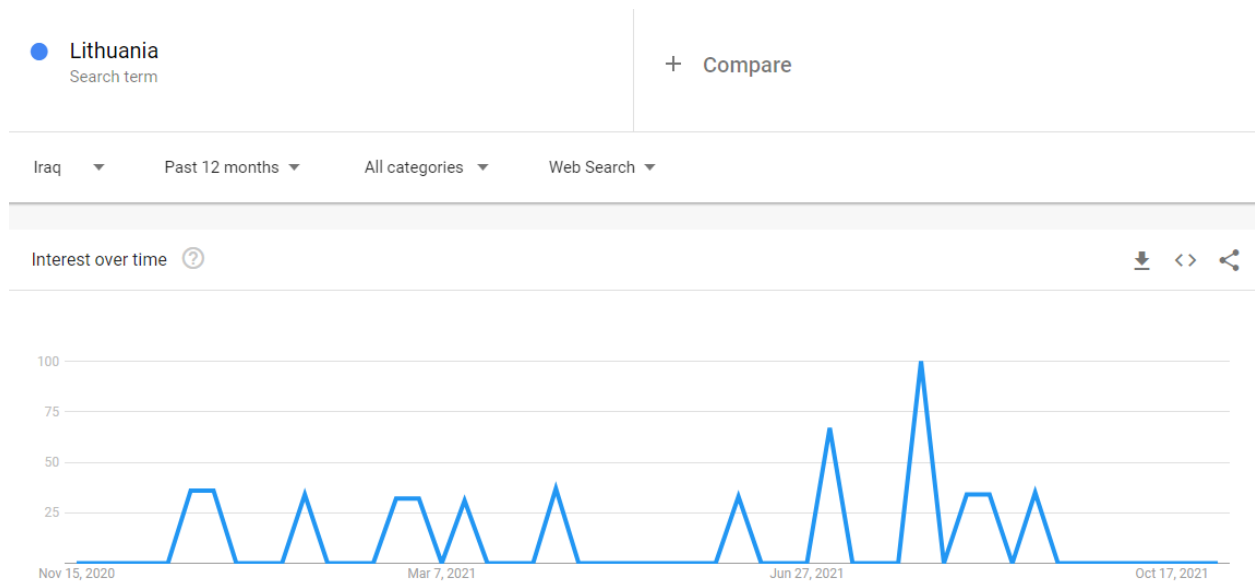
بيلاروسيا (Search term): Interest by subregion:



(Google Trends, Belarus c, 2021)

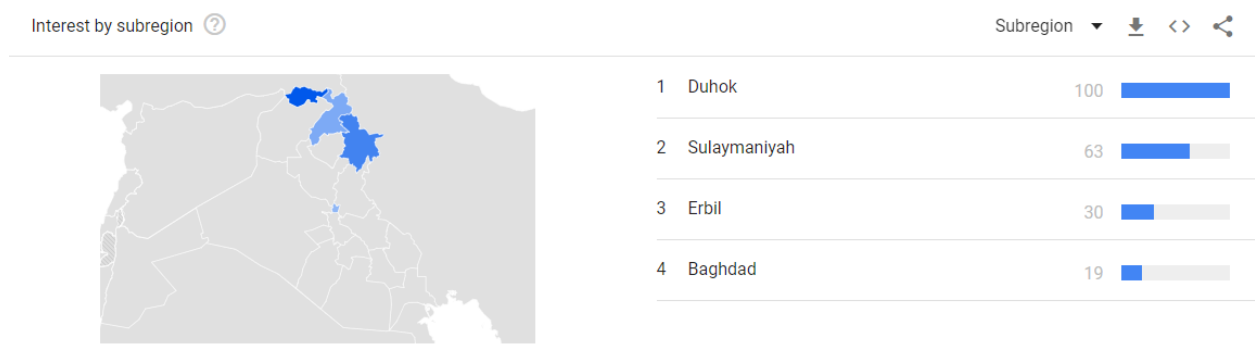
4.33 GTI CASE STUDY: LITHUANIA

Lithuania (Search term): Interest over time:



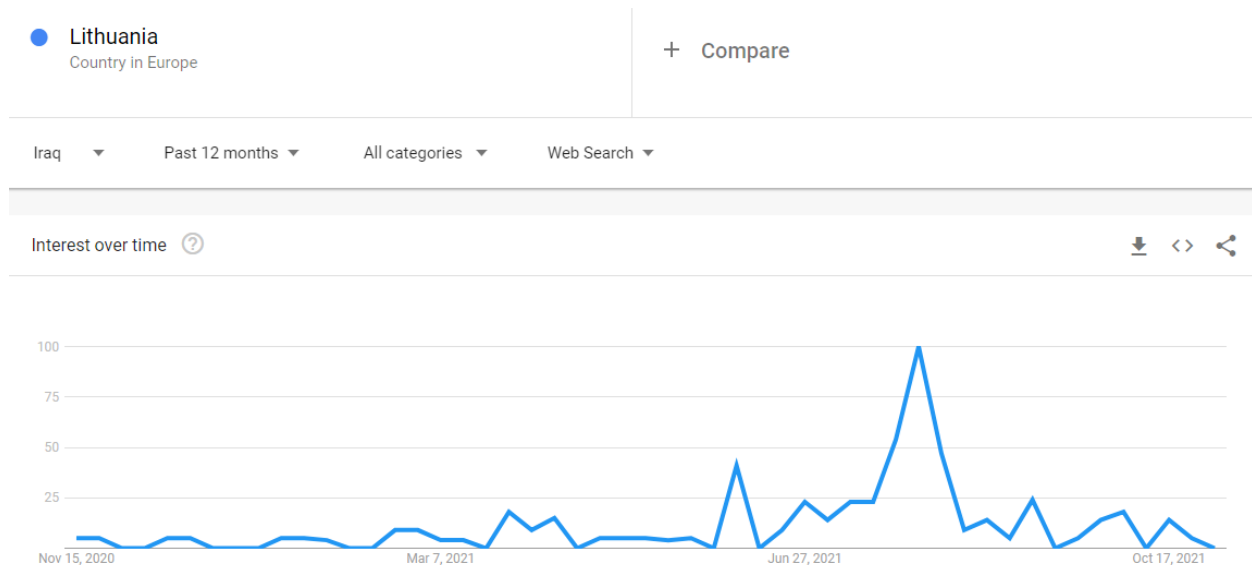
(Google Trends, Lithuania a, 2021)

Lithuania (Search term): Interest by subregion:



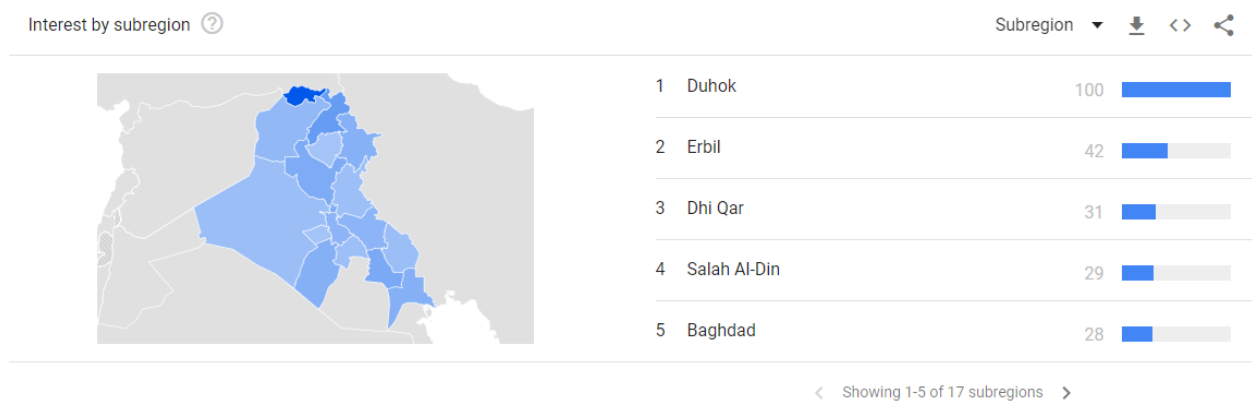
(Google Trends, Lithuania a, 2021)

(Country in Europe): Interest over time:



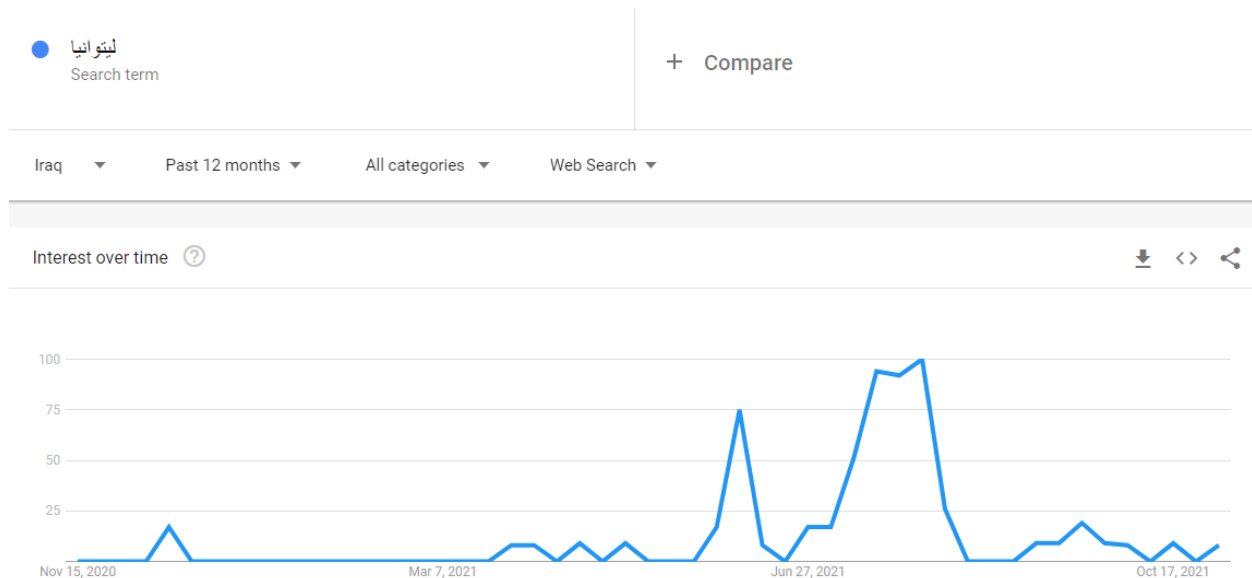
(Google Trends, Lithuania b, 2021)

(Country in Europe): Interest by subregion:



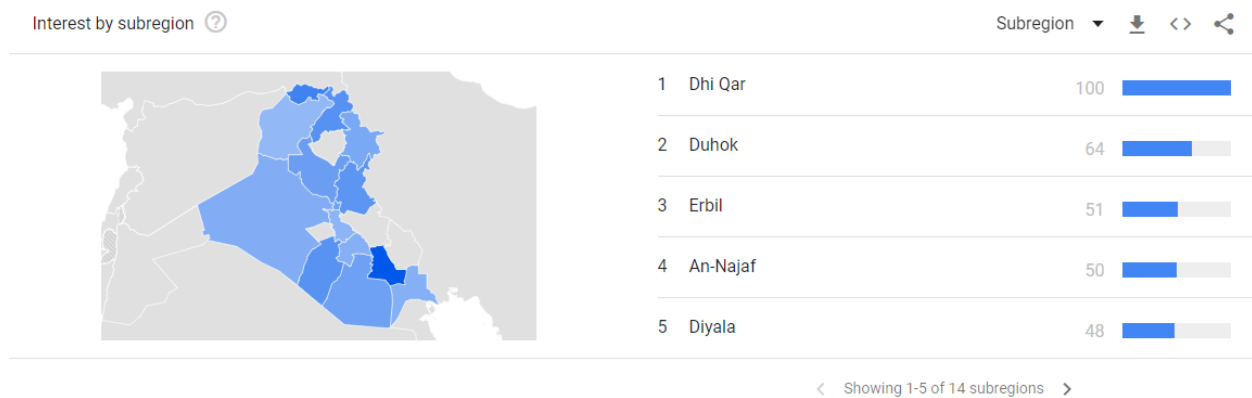
(Google Trends, Lithuania b, 2021)

ليتوانيا (Search term): Interest over time:



(Google Trends, Lithuania c, 2021)

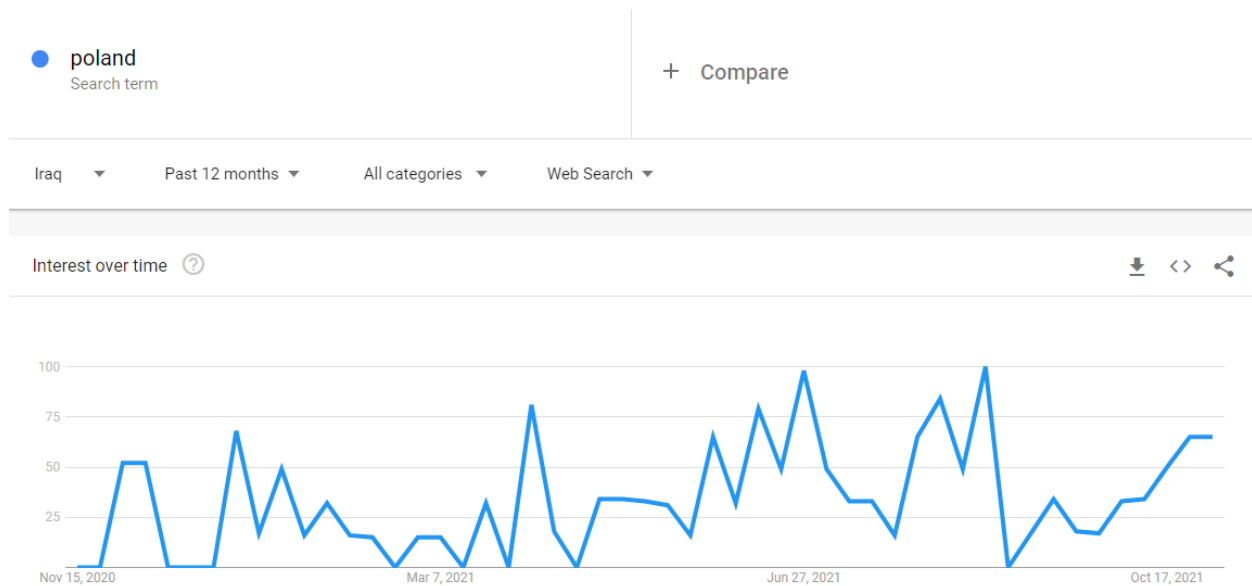
ليتوانيا (Search term): Interest by subregion:



(Google Trends, Lithuania c, 2021)

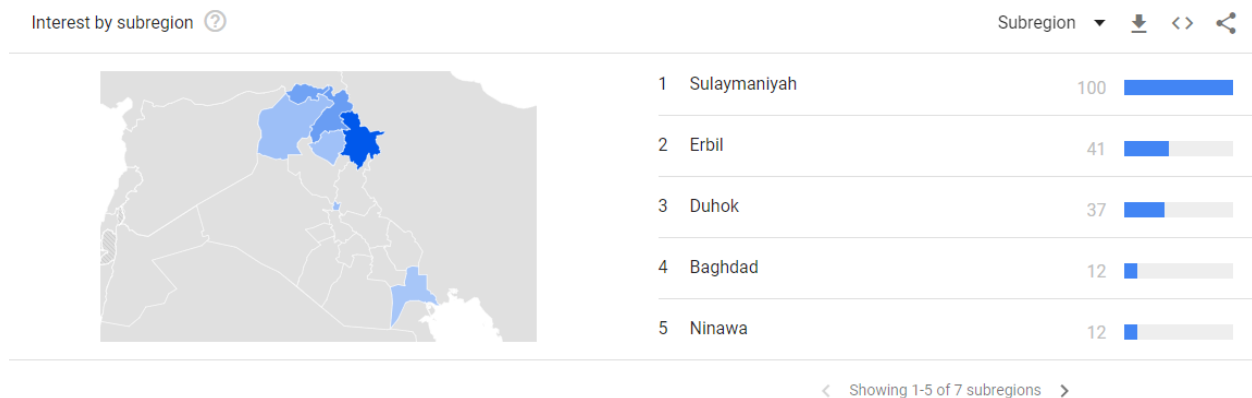
4.34 GTI CASE STUDY: POLAND

Poland (Search term): Interest over time:



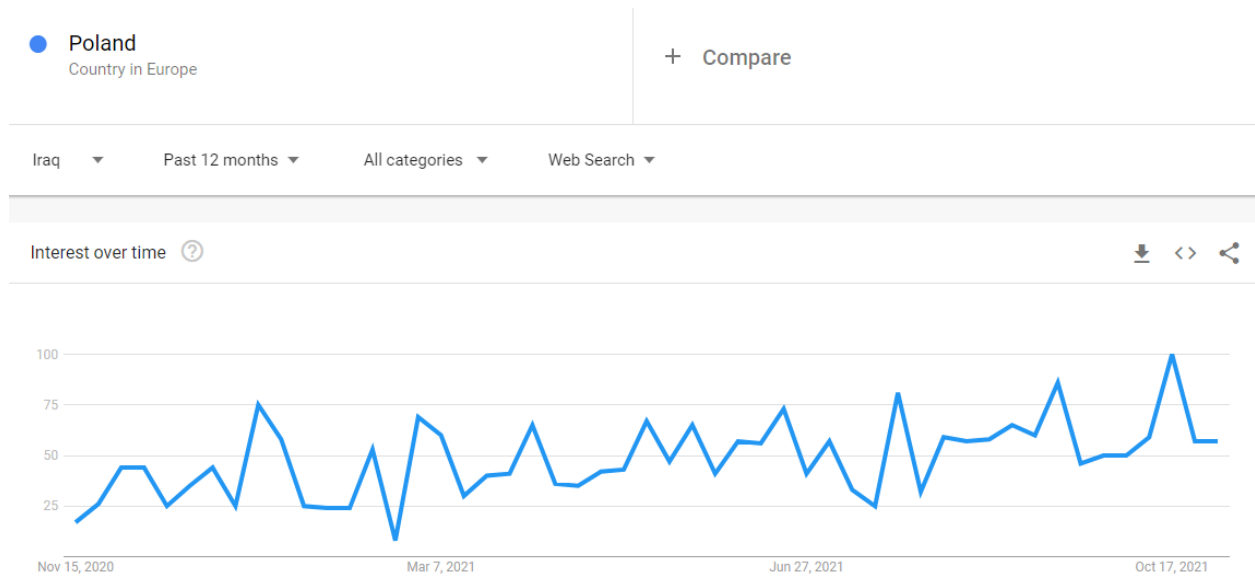
(Google Trends, Poland a, 2021)

Poland (Search term): Interest by subregion:



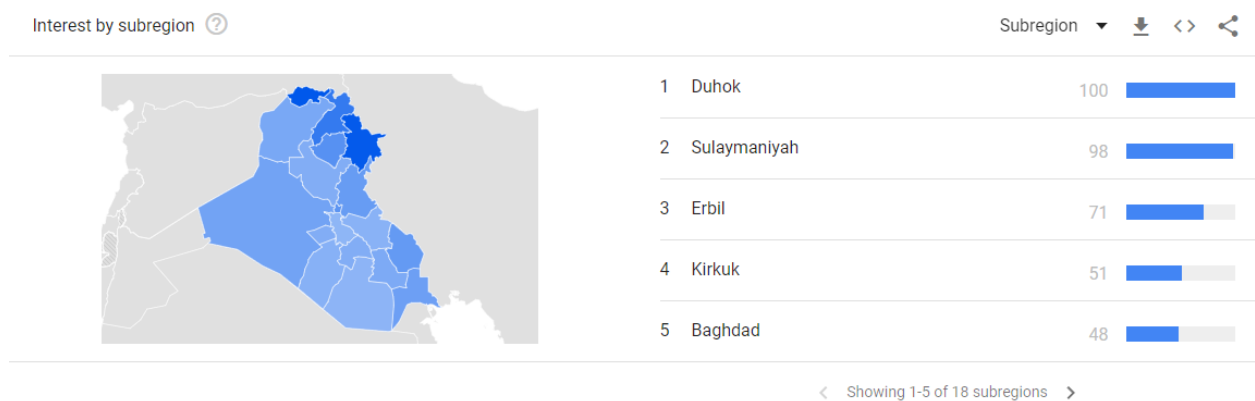
(Google Trends, Poland a, 2021)

Poland (Country in Europe): Interest over time:



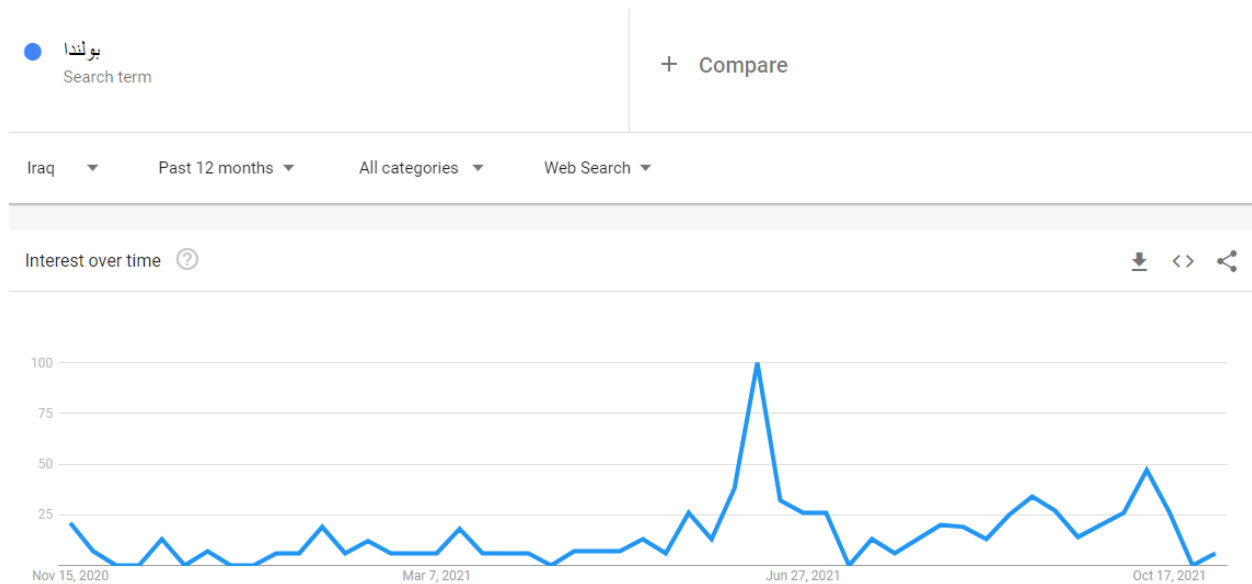
(Google Trends, Poland b, 2021)

Poland (Country in Europe): Interest by subregion:



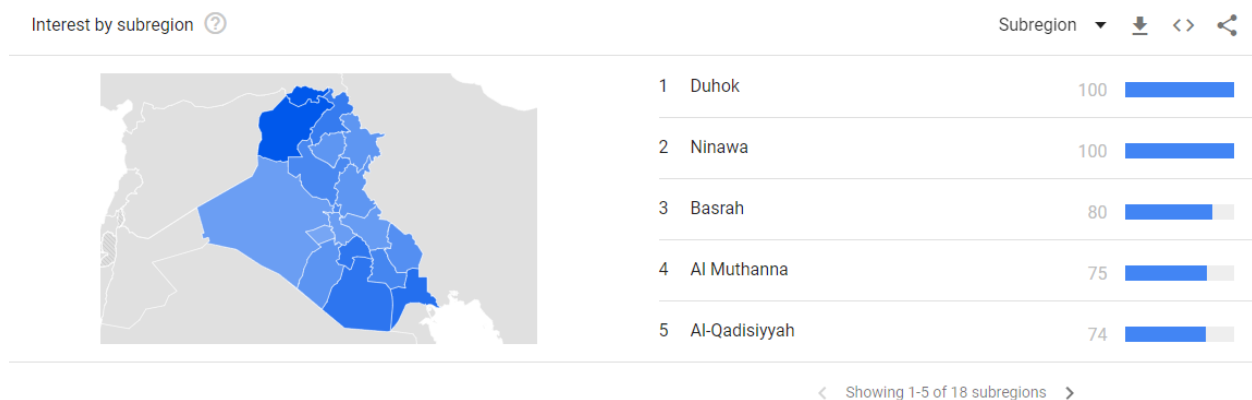
(Google Trends, Poland b, 2021)

بولندا (Search term): Interest over time:



(Google Trends, Poland c, 2021)

بولندا (Search term): Interest by subregion:



(Google Trends, Poland c, 2021)

4.4 GTI: RELATED TOPICS

4.41 RELATED TOPICS: BELARUS

A)

Belarus (Search term): Related topics

1	Visa policy of Belarus – Topic	Breakout
2	Poland – Country in Europe	Breakout
3	Border – Topic	Breakout
4	Belarusians – Ethnic groups	+60%
5	Minsk – Capital of Belarus	+60%
6	Belarusian language – Spoken language	+60%
7	Belarus – Country in Europe	+50%

(Google Trends, Belarus a, 2021)

B)

Belarus (Country in Europe): Related topics

1	Temperature - Topic	Breakout
2	Lithuania – Country in Europe	Breakout
3	Road – Topic	Breakout
4	Visa policy of Belarus – Topic	Breakout
5	Aviation – Topic	Breakout
6	Airport – Topic	Breakout

7	Airplane – Transportation mode	Breakout
8	Smuggling – Topic	Breakout
9	Apartment – Building function	Breakout
10	Border – Topic	Breakout
11	Minsk – Capital of Belarus	+400%
12	Tourism – Topic	+350%
13	Travel visa – Topic	+250%
14	Hotel – Building function	+250%
15	Belarusian language – Spoken language	+110%
16	Capital city – Topic	+70%
17	Belarusians – Ethnic group	+60%

(Google Trends, Belarus b, 2021)

c)

بيلاروسيا (Search term): Related topics

1	Embassy – Topic	Breakout
2	Hotel – Building function	Breakout
3	State – Polity	Breakout
4	Germany – Country in Europe	Breakout
5	Minsk – Capital of Belarus	+40%
6	Tourism - Topic	+40%

(Google Trends, Belarus c, 2021)

4.42 RELATED TOPICS: LITHUANIA

A)

Lithuania (Search term): Related topics

1	Lithuanian language – Human language	100 [GTI score]
2	Lithuania – Country in Europe	80 [GTI score]

(Google Trends, Lithuania a, 2021)

B)

Lithuania (Country in Europe): Related topics

1	Belarus – Country in Europe	Breakout
---	-----------------------------	----------

(Google Trends, Lithuania b, 2021)

C)

ليتوانيا (Search term): Related topics

1	Belarus – Country in Europe	Breakout
2	Spain national football team – Football team	Breakout

(Google Trends, Lithuania c, 2021)

4.43 RELATED TOPICS: POLAND

A)

Poland (Search term): Related topics

1	IKEA – Furniture retail company	+140%
2	IKEA - Topic	+60%

(Google Trends, Poland a, 2021)

B)

Poland (Country in Europe): Related topics

1	IKEA – Furniture relatil company	Breakout
2	IKEA Restaurant – Topic	Breakout
3	Ukraine – Country in Europe	Breakout
4	IKEA – Topic	Breakout
5	Belarus – Country in Europe	Breakout
6	Belarusian language – Spoken language	Breakout
7	Germany – Country in Europe	+200%
8	European Union – Topic	+90%
9	Netherlands – Country in Europe	+90%
10	Poles – Ethnic group	+70%

(Google Trends, Poland b, 2021)

C)

بولندا (Search term): Related topics

1	Belarus – Country in Europe	Breakout
2	Germans – People	Breakout
3	Spain national football team – Football team	Breakout
4	England national football team – Football team	Breakout
5	Italy national football team – Football team	Breakout

6	Lithuania – Country in Europe	Breakout
7	Poland national football team – Football team	+500%

(Google Trends, Poland c, 2021)

4.5 SEO: Search Engine Optimisation

There are numerous methods for expanding the analysis and extracting additional information from the initially extracted keyword queries. Among the techniques is the use of Search Engine Optimisation (SEO) online tools. What is Search Engine Optimisation, and how does it work?

There are a variety of online tools and software which are utilised for search engine data investigations. As an example, bots are used by both Google and Bing, designed specifically for web crawling. These bots scrape data from sites and collect any required information from web pages. As a result, bots produce indexes based on the data scraped from web pages. These indexes can be described as massive libraries or big-data datasets, where a researcher can retrieve any data or information (scraped from web pages, internet sources) in order to assist in locating the exact information a researcher is searching for. (SEL, 2021)

After this procedure, bots utilise algorithms which analyse the index libraries. This algorithmic analysis may include a great number of ranking factors, indications, data and any digital signal, which can be considered relevant for the data scraping research. In this analogy, a researcher has ‘read’ every single webpage, article and information in this vast library and thus is able to advise a researcher on which sources should be relevant to the research question. (SEL, 2021)

When used for traditional *optimisation*, SEO tools aid website owners in achieving a higher search engine ranking. This aid in the optimisation of the content found in web pages is done by analysing them for any data, relevant keywords and any correlating information. This information may include backlinks to the relevant web pages, in addition

to any other relevant data related to the pre-set axioms. SEO online tools search and analyse any potential content in the web pages, which could assist in achieving a high ranking on the search results pages. Utilising this SEO tool provides data related to the searched data and information on the web pages, including any backlinks that also correlate with the research intentions. This method can result in finding relevant keywords; it offers insight into the competition of SEO rankings and hence provides a listed ranking for the popularity of pre-selected keywords. (SEL, 2021)

A keyword analysis is a method or a procedure for finding the most popular searched keyword associated with any data on any given openly accessible website. They assist search engines such as Google in determining which websites to link to in response to user queries (TB, 2021). Specific SEO tools mine data from a variety of social media platforms such as Twitter, Google+, and Facebook. They estimate the number of users who access a blog or other subpages of a domain, as well as the frequency with which content found (for example, in webpages, articles, or blogs) is linked with any data found on social media platforms. Additionally, numerous tools assist in identifying trends in social media by searching for frequently used keywords. (TB, 2021)

There are numerous SEO tool providers. They offer a range of services, from free to more exclusive, equipped with more features. This thesis will utilise the SEO tool "Wordtracker" (Wordtracker, 2021). This tool was chosen because it was available in a freeware version and because it included the necessary parameters for this study: Iraq as a search area, Arabic as a language option, and additional resources.

In this thesis, an SEO tool is used to determine whether additional useful data can be extracted from previously extracted Google search engine queries and related topics. However, in this example, due to the constraints of the master's thesis, only the keyword "belarus" is tested in the Iraqi region, with English as the chosen language. From this "Keyword Analysis" -method, another set of extracted keywords (50 in the freeware version, not all of them used in this example) (Wordtracker, 2021) will be extracted for further analysis.

4.51 SEO: BELARUS

Following the "Keyword Analysis" step, extraction using the keyword "belarus" returns the following related queries:

Search with: Enter keyword Territory

Google belarus Iraq

288 more keywords available...

50 keywords for 'belarus'

Metrics... PPC SEO GSC

SAVE EXPORT REMOVE...

+ Volume... + Competition... + IAAT... + Is Question... + GSC keywords only...

<input type="checkbox"/> Keyword	Historical	Volume ^①	Comp. ^①	IAAT ^①
<input type="checkbox"/> belarus		3,065	41.34	48,592
<input type="checkbox"/> minsk		605	32.95	17,102
<input type="checkbox"/> belarus maps		139	—	0
<input type="checkbox"/> belarus tourism		102	6.23	8
<input type="checkbox"/> capital of belarus		60	6.81	12
<input type="checkbox"/> belarus airports		45	—	0
<input type="checkbox"/> belarus population		38	7.43	18
<input type="checkbox"/> belarus flags		30	6.06	7
<input type="checkbox"/> poland belarus border		29	—	0
<input type="checkbox"/> belarus president		23	14.31	367
<input type="checkbox"/> cities in belarus		22	5.86	6
<input type="checkbox"/> lithuania belarus border		22	—	0
<input type="checkbox"/> belarus is		21	—	0
<input type="checkbox"/> belarus country		18	7.69	21
<input type="checkbox"/> belarus border		14	12.73	214
<input type="checkbox"/> minsk city		14	9.92	68
<input type="checkbox"/> belarus to germany		13	—	0
<input type="checkbox"/> belarus located		12	—	0
<input type="checkbox"/> belarus people		12	6.68	11
<input type="checkbox"/> made in belarus		12	7.91	24
<input type="checkbox"/> grodno belarus		11	9.11	46

(Wordtracker, 2021)

The same step using keywords such as "بيلاروسيا" (Belarus in Arabic), "lithuania," or "poland" did not yield a sufficient amount of data for further analysis; thus, we chose

"belarus" as the primary keyword and examined the results in greater detail in order to proceed to the 'case selection' -step.

4.52 SEO: GERMANY

Along with Lithuania and Poland, which were previously mentioned and examined, it was notable how frequently Germany as a country and a topic of interest appeared in related search queries. As a comparison to the search term "belarus," the new search term "germany" was tested in this SEO tool to determine whether the related queries and extraction process would yield anything worth analysing in the subsequent stages.

The keyword "germany" (Wordtracker Germany, 2021) resulted in the following query extraction:

Search with:

Google

germany

Iraq

246 more keywords available...

50 keywords for 'germany'

Metrics...

PPC

SEO

GSC

SAVE

EXPORT

REMOVE...

+ Volume...

+ Competition...

+ IAAT...

+ Is Question...

+ GSC keywords only...

<input type="checkbox"/> Keyword	Historical	Volume ^①	Comp. ^①	IAAT ^①
<input type="checkbox"/> germany		5,275	64.77	384,241
<input type="checkbox"/> time in germany		907	9.28	50
<input type="checkbox"/> timing in germany		907	—	0
<input type="checkbox"/> germany consulate erbil		703	—	0
<input type="checkbox"/> germany consulate in erbil		703	—	0
<input type="checkbox"/> german flags		459	7.52	19
<input type="checkbox"/> germany flag		459	11.06	112
<input type="checkbox"/> germany time		453	9.86	66
<input type="checkbox"/> amazon germany		431	11.61	140
<input type="checkbox"/> football in german		379	3.97	1
<input type="checkbox"/> germany football		379	11.01	110
<input type="checkbox"/> ebay germany		362	7.84	23
<input type="checkbox"/> dusseldorf		298	33.77	19,145
<input type="checkbox"/> germany map		272	11.78	150

<input type="checkbox"/> german language		253	21.57	2,429
<input type="checkbox"/> cities in germany		240	10.76	99
<input type="checkbox"/> germany embassy in baghdad		220	—	0
<input type="checkbox"/> vfs germany erbil		177	—	0
<input type="checkbox"/> learning german		106	14.1	343
<input type="checkbox"/> germany visa		87	12.43	192
<input type="checkbox"/> berlin germany		78	22.16	2,751
<input type="checkbox"/> vfs global germany		69	—	0
<input type="checkbox"/> i love you in german		62	7.61	20
<input type="checkbox"/> munich germany		58	18.27	1,130
<input type="checkbox"/> hello in german		57	7.43	18
<input type="checkbox"/> hamburg germany		56	17.48	922
<input type="checkbox"/> german states		52	13.71	302
<input type="checkbox"/> bonn germany		49	13.05	240
<input type="checkbox"/> frankfurt germany		49	16.56	720
<input type="checkbox"/> kiel germany		49	10.54	90
<input type="checkbox"/> cologne germany		45	14.43	382
<input type="checkbox"/> germany area		43	6.23	8
<input type="checkbox"/> germany google		43	11.87	155
<input type="checkbox"/> vfs global germany erbil		40	—	0

(Wordtracker Germany, 2021)

4.6 CASE SELECTION

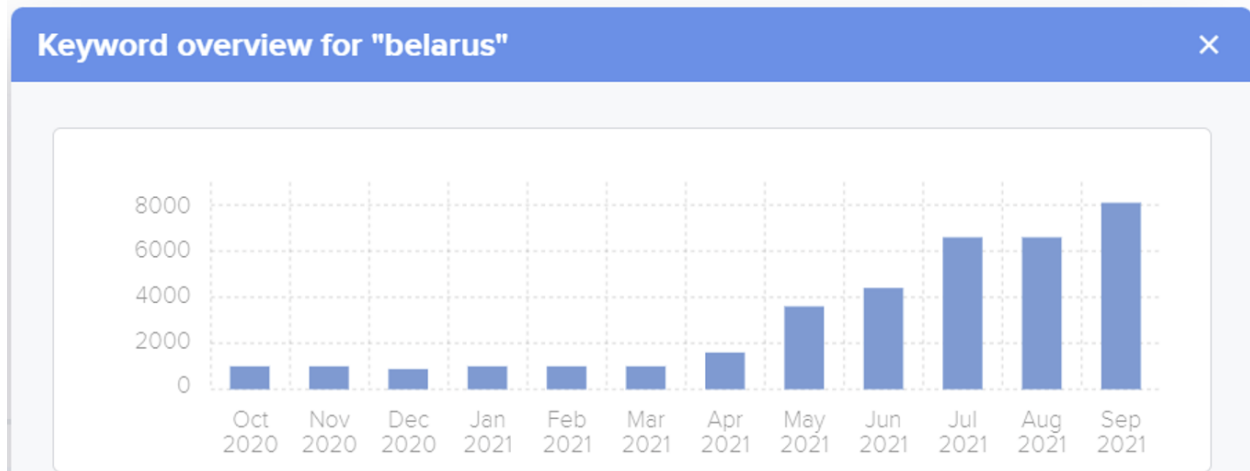
We can now filter and select related queries and topics that fit within the study's theoretical and conceptual framework. This case selection -step serves as a bridge between the 'Quantitative phase' and the 'Qualitative phase' of this thesis, as detailed in the chapter on the methodology used in this research. Semantic analysis and qualitative methods will be used primarily in the future. Following this case selection process ('Qualitative collection'), the next step is to begin analysing the semantic material extracted from these queries ('Qualitative analysis').

Qualitative data collection encompasses previously presented findings of GTI sources (Interest over time, Interest by subregion, Related topics). After combining raw semantic data from GTI and SEO sources, the case selection process can take place. It's also worth noting that this SEO tool uses actual query counts rather than abstract indexes like GTI did. As can be seen, some of the queries are extremely small, whereas some of the "heavier" terms receive thousands of queries on a monthly average basis (notice monthly average).

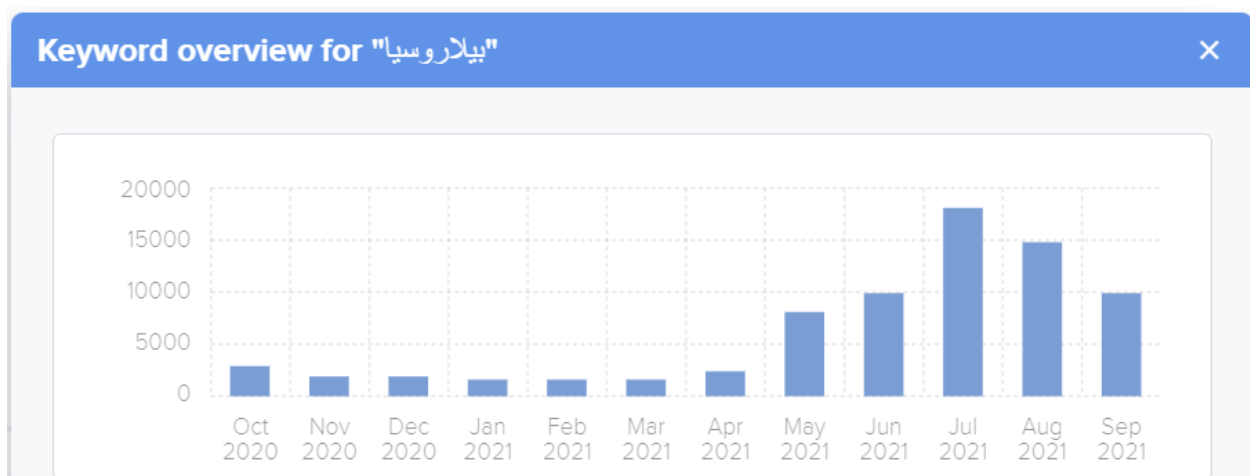
This step is primarily concerned with the overall direction and trajectory of trends rather than with the raw numerical data. One aspect of this thesis's hypothesis is to determine whether these trend trajectories correlate with data and evidence from other sources and thus whether these trend indicating trajectories are worth further investigation.

4.61 CASE SELECTION: Belarus

Belarus is a near-trivial case and subject of interest. Belarus appears to be the driving force behind current events, and the popular trends of the queries appear to correlate with media and official reports.



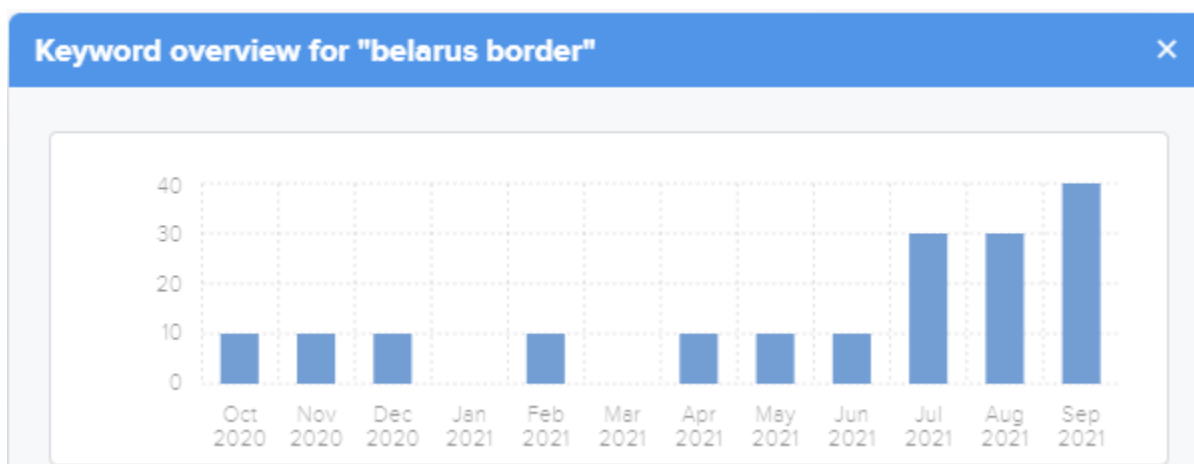
It's interesting to note how the same query in Arabic ('Belarus') loses interest over time from July to September in Arabic, while the same query in English appears to gain popularity:



Additionally, the 'belarus tourism' query loses popularity concurrently with the 'belarus border' query:

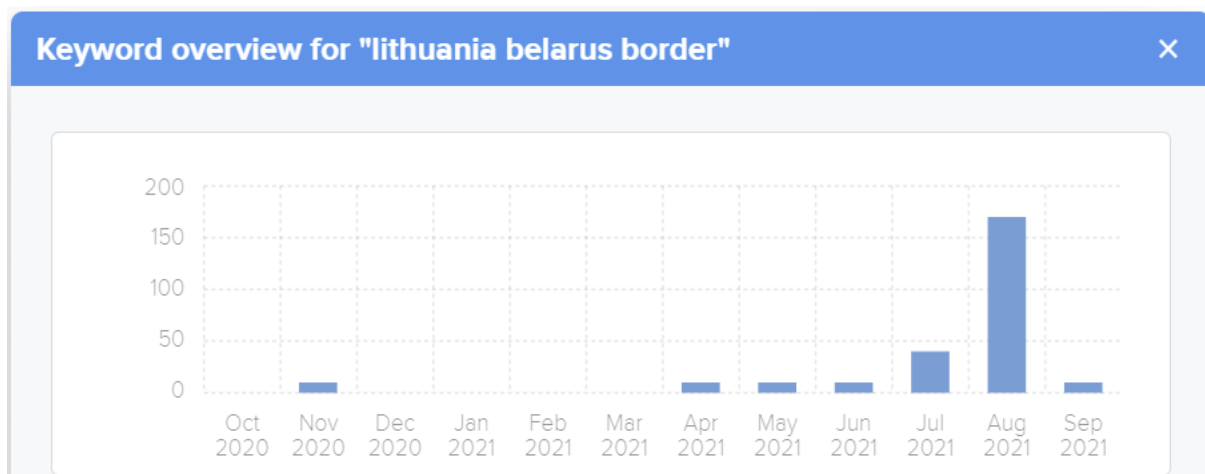


It's also worth noting how travel agencies contributed to the migration trend by marketing their services as tourism services.



4.62 CASE SELECTION: Lithuania

In the case of Lithuania, it is seemingly obvious how the interest in queries ceases immediately and how it correlates to the data derived from the Lithuanian statistics regarding migrants' border crossing (Department of Statistics, Lithuania, 2021). It is reasonable to assume that the evidence indicates that the changes in Lithuanian border control policies are reflected in the volume of queries and the manner in which the trend ceased following a rapid peak:



4.63 CASE SELECTION: Poland

Poland's case appears to be thriving, judging by the trend in search volume. Additionally, it appears that after the Lithuanian border changed its policies and halted the migration trend along the Lithuanian border, interest in the Poland-Belarus border surged:



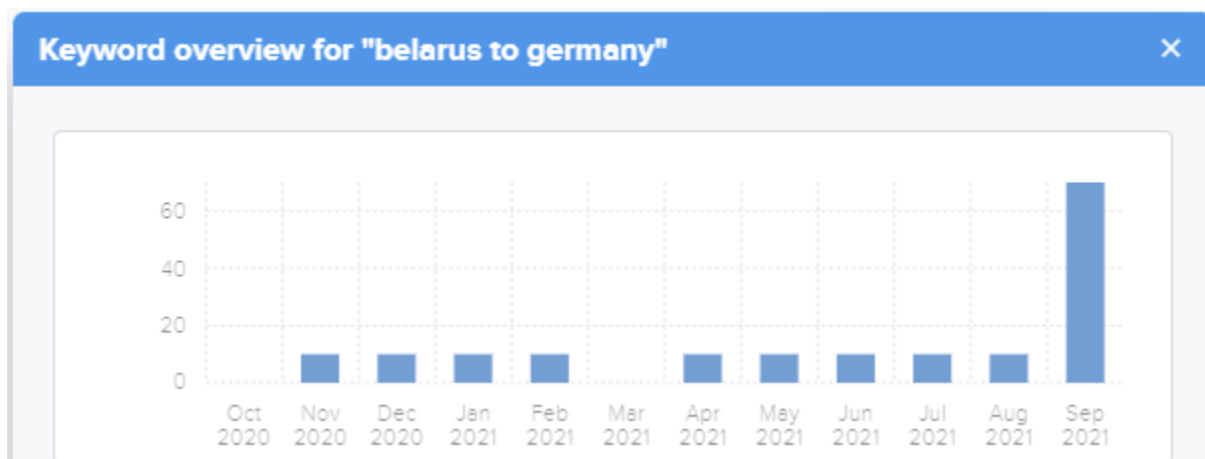
4.64 CASE SELECTION: Germany

Similarly, in terms of Germany, it appears as though the interest in 'belarus to germany' - query peaked immediately after the Lithuanian border was closed. This presumes that a correlation exists between the events. Additional speculation will be conducted in this thesis's discussion chapter. Overall interest in Germany appeared to nearly double in volume during June and has remained elevated since July compared to the months preceding June 2021.

Simultaneously, interest in Germany's consulate in Erbil has increased. It is chronologically consistent with events and other evidence. Additionally, it's worth noting that the city "erbil" appears in the top related queries. As evidenced by GTI's results and

its 'Interest by subregion' -category, it was clear that interest in queries related to this topic, in general, was heightened in northern Iraq, specifically in Erbil. This information also corroborates previous estimates that the majority of migrants arriving in Belarus are Iraqi Kurds (Northern Iraq is also known as the Southern Kurdistan or Kurdistan of Iraq, since its high volume of ethnic Kurds residing in the area). (Wikipedia a), Iraqi Kurdistan, 2021)

When examining the URLs mentioned in the report, it is also noticeable how the term "vfsglobal" appears in a number of URLs related to the query 'germany consulate erbil'. VFS Global is the world's largest provider of visa outsourcing services to governments and diplomatic missions throughout the world. The company manages for its client governments the administrative and non-judgmental tasks associated with visa, passport, and consular services (VFS Global, 2021). This piece of evidence indicates that interest in German visas has increased significantly in recent months, particularly in northern Iraq.



Keyword overview for "germany"



Keyword overview for "germany consulate erbil"



URL	RDs ⓘ	BLs ⓘ	CF ⓘ	TF ⓘ	Diff. ⓘ
visa.vfsglobal.com/irq/en/deu	1	1	24	14	78
visa.vfsglobal.com/irq/en/deu	1	1	24	14	74
visa.vfsglobal.com/irq/en/deu/bo...	2	2	15	13	69
gov.krd/dfr-en/foreign-represent...	2	4	18	11	33
www.consulate-info.com/consul...	0	0	8	4	27
www.embassypages.com/germa...	2	2	8	0	56
www.auswaertiges-amt.de/en/a...	1	1	0	0	51
embassies.info/GermanConsulat...	0	0	5	0	16
irak.diplo.de/iq-de/generalkonsu...	1	4	31	22	20
www.visahq.com/germany/emba...	1	1	0	0	41



Further analysis of the SEO result will follow in the results analysis, discussions and conclusions chapters.

5. QUANTITATIVE DATA ANALYSIS

Reminder; this case study's results are a mere flick in a wider perspective of the overall phenomenon, with multiple simultaneous intertwined sub-, meso- and metanarratives. Different sub-narratives can and do coexist simultaneously, and narratives are also generated and maintained by a variety of groups based on their position as an agent, mediator, subject, facilitator, etc. In the following part of the summarising results step, these narratives are good to keep in mind since focusing on different narratives, different emphasis on the different keywords are set.

The researcher's role should also include staying alert and aware of these narratives and one's own position within the fields of narratives, while it is not possible to remain fully objective on anything. Let us remember that this field of information contains data and information that can be used to strengthen different, contradictive, and even contra factual narratives, especially in the cases that are subjected to data manipulation, hybrid operations, propaganda, and such efforts to distort the information flow.

One aspect of this thesis is to examine whether it is sensible to use an 'objective' apparatus, the Google algorithm (that should not bias the data, in these cases of GTI) that could provide 'original' data from the users themselves before any external interest

groups efforts can intervene the data flow. Following will be listed some notable points of interest which may have an (at least speculative) connection to the event and its study of it. Points of interest are based on the results extracted from the GTI data (Interest over time, interest by subregion, Related topics). It is important to highlight the fact that the area where these queries were done is in Iraq, so the queries done by migrants that had already left Iraq at the time are not presented in this visualisation.

Overview of the points of interest; Results derived from the 'Interest over time' and 'Interest by subregion' offer contextual and informational data related primarily to the chronological and spatial axes; they explained when the topic was hot and where particularly. Where it really becomes more interesting is where the related topics are presented since this is the first reach to a semantic, qualitative realm of what other topics, search terms, keywords, and points of interest were a) considered related to the original search term, and b) the popularity is shown by indicator (by percentage (%), or by 'Breakout'), and these factors are determined by *the users themselves*.

5.1 GTI Interest over time

a) Belarus

The interest in Belarus, both as search terms in English and in Arabic and as a topic (Country of Europe), has risen significantly, correlating the chronological order of events that took place.

b) Lithuania

Interest in Lithuania can be seen as twofold; judging from the sheer shape of the GTI graph, it seems that the amount of data is relatively low based on the sharp formation of the distribution curve. Also, the interest in Lithuania is extremely sharp and easily noticeable.

It is easy to see how the exact saturation moment for interest happened in the first week of August when the situation on the Lithuanian border also escalated sharply. At that time, there were still available direct flights from northern Iraq to Minsk.

c) Poland

Judging the graph of Poland is not as straightforward as in Lithuania's case. There seems to be growing interest in searches after the Lithuanian border was closed, but not that dramatic. This applies only to the queries done in English. In Arabic, however, there is a single peak of interest that saturated mid-June (as did the Arabic language search for Lithuania), but instead of peaking immediately again, the interest has grown more moderately.

Summary: It seems that there is a chronological correlation that can be detected between the events in Belarus, Lithuania and Poland in terms of migration and comparison with the search engine activity by volume and chronological order. This apparent correlation could be tentatively interpreted as a potential positive outcome in terms of judging the overall validity of the hypothesis.

5.2 GTI Interest by subregion

a) Belarus

Sulaymaniyah, Erbil, and Duhok are holding the top three slots (in different variations, though) in governorates of Iraq, where the vast majority of search queries were made. Interest in other governorates is not comparable in English queries, although the distribution is more evenly balanced in terms of a query done in the Arabic language. That might indicate perhaps language proficiency or educational background differences, but this is speculative. Even though the distribution is more scattered throughout the country in the Arabic language query, the top three governorates remain the same.

b) Lithuania

Duhok, Sulaymaniyah and Erbil remain prevalent in the top three and five measures, even though (and especially in the Arabic language) Dhi Qar governorate showed some significant search activity towards Lithuania as a search query done in the Arabic language.

c) Poland

Sulaymaniyah, Duhok and Erbil remain the most prevalent in the queries done in English. In Arabic, northern Iraq is also the main emphasis, but in addition to the north also, southern Iraq seems to take interest (Basrah, Ninawa, Al Muthanna, Al-Qadisiyyah) in Poland as a search query.

Summary: This is either speculative or trivial to mention, but it does seem that there may be possible evidence to claim that since the reports in media and official sources do indicate a high proportion of Iraqi Kurds and Yazidis among the migrants, and since the vast majority of these searches done in Iraq has clear, distinguished northern emphasis, it can be argued that the search queries done in northern Iraq (in Kurd and Yazidi areas) are connected somehow.

It seems plausible that people who departed to Belarus did search these topics mentioned before their journeys. It would seem unlikely that these searches would be related only to the relative news article curiosities or searches done by unrelated audiences, especially when the spatial distribution of queries done over the country (Ethnic distribution correlates with the evidence) is considered.

Evidence from the spatial distribution could serve as a basis for further research since this thesis does not tackle that question. Why this area specifically in this event, how is this area connected to this trend specifically, and how the areal distribution was different compared to other migrational events (for example, in the case of migration in 2015) from the same area? Which drivers were set on different “settings” so that the migrational event was factually different by its content?

These are open questions that arise from these results and may be answered (or may be answered already) by other studies. Perhaps there is some information about the drivers behind this event that are still unknown to the western academia and migration specialists.

5.3 GTI Related topics

a) Belarus

It seems that the search terms activity in relation to the 'Related topics' by the Google search engine algorithm supports the hypothesis that there may be a connection to be shown between the Google search engine users in Iraq and the migrational event happening simultaneously in Belarus. Judging from the related terms used, it does not seem sensible that there would be any other event that would draw that much attention in the country of Belarus rather than the migrational event.

Terms such as 'Smuggling' and 'Borders' are self-evidential indicators of migrational intents in search queries. Transportation, accommodation and travel documentation - related terms are also present: 'Airplane - Transportation mode', 'Aviation - Topic', 'Airport - Topic', 'Road', 'Hotel - Building function', 'Apartment - Building function' and 'Visa policy of Belarus - Topic'.

As a singular curiosity factor, the most related (no.1 in 'Related topics' -listing) topic to Belarus is 'Temperature - Topic'. This might indicate (taken that Belarus is hardly a destination for recreational beach holidays) that one of the biggest concerns related to Belarus is related to weather conditions. It is difficult to imagine other reason for it other than it would be related to the weather conditions and temperature that the migrants are exposed to in the border crossing by foot attempts, and also whether they are forced to stay outside conditions for extended periods of time, such as in the tent camps formed in between Polish and Belarusian borders.

If terms directly related to Belarus itself ('Belarusians - Ethnic group', 'Minsk - Capital of Belarus', 'Capital city - Topic', 'Belarusian language - Spoken language') are ignored from this list, from the 17 related topics (chosen by Google algorithm) 13 of them could be seen as directly or indirectly related to the event of ongoing migration movement.

b) Lithuania

Lithuania seems the driest source in terms of data scraping. There are very few related searches, which also is an indicator of a low search volume. Apart from the topics elementarily related to the topic ('Lithuania - Country in Europe', Lithuanian language - Human language') and an irrelevant or an arbitrary query ('Spain national football team - Football team'), the *only other* topic related to Lithuania is 'Belarus - Country in Europe').

This conceptual connection established by the query makers, Google search engine users in Iraq (predominantly in northern Iraq), indicates that the sudden interest in Lithuania is thematically related to Belarus since there was virtually no other topic (apart from the Spanish football team) that would be related to Lithuania in search term relations.

c) Poland

Poland's related terms analysis is rather interesting. At first glance, it would seem that IKEA is the main related term to Poland (Search term), or football teams of Spain, England, Italy or Poland (Poland as a search term in Arabic), but in between those everyday related topics there appear to be selected keywords that would seem to be relevant to the point of interest that have caused 'Breakout'-interest surges in Lithuania and Belarus' cases.

Belarus (Country in Europe) is present in two listings (Arabic search, Country in Europe), Germany (Country in Europe), Germans (People), Lithuania (Country in Europe), Ukraine (Country in Europe) and Netherlands (Country in Europe) are mentioned on the listing. In terms of how countries in Europe are connected in search queries, Both Lithuania and Poland are connected to Belarus, and Belarus is connected to Lithuania and Germany. This also supports the evidence of how Germany has been connected as the end destination in some of the migrational plans of this event.

Summary: It does seem that there is an obvious conceptual connection between the selected countries (Belarus, Lithuania, Poland) and the search engine queries done. Not

only that the countries and queries may be connected, but it did confirm migrational concepts related to the selected areas within the same timeframe.

In order not to be too trivial, it also seems that additional keywords are appearing in the related topics section that was not considered earlier. This can be considered as new information gained from this used method. These confirmed topics (and new topics or points of interest extracted from the 'Related topics' and SEO analysis) can be subjected to further analysis by other tools that may offer additional insights. More about these potential actions are discussed in the latter 'Conclusions' -chapter.

5.4 SEO Keyword analysis insights

Further analysis will follow in the discussions and conclusions chapters. As an overview, it can be said that this particular tool or service offers some additional insights into the greater frame already obtained from the GTI -based extracted data. It is notable how the data flow trends match the overall image extracted from the GTI level examination. There are no visible contradictors that would indicate major theoretical or structural problems regarding the validation of the hypothesis on a general level.

Whether there would be major differences between search volumes and migration volumes, it might indicate either an anomaly or an error in the core hypothesis, structure or mistake in the tool design or conduct of it. However, it might also indicate that there is yet undetected migrational trend growing which is not yet actualised and saturated to the borders so that the border control and immigration statistics would yet show it, nor the media would have held on the information on it yet. These anomalies should also be taken into further examination if there is an anomaly in the results that differs from the presumed hypothetical models. It might be a surprising new result instead of a flaw in the design or conduct of the model.

Additional insights worth mentioning are the actual numbers of searches. This tool offers the actual number of queries per keyword. As we may see, volumes of queries vary a lot depending on the keyword selections, but as said, the trends are the main focus of this

examination. This said, it is an additional curiosity to notice how the volume of queries done over topics in Iraq somehow correlates also numerically to the actual volumes of migrants. This speculative and rough estimation is based on the proportional volumes; there are not vast differences to notice between volumes, as queries happen in few thousands, which is similar to the volume of actual migrants that flew to Ukraine.

Again, this is a rough comparison, but it is noticeable that we are not noticing differences of hundreds of thousands, millions even (in search result interests), or total absence of search engine interest. The real correlation between these numerals remains speculative in this study but could be a basis for other studies, focusing more on the data science, statistics and the correlations of the numeric data.

6. QUALITATIVE DATA COLLECTION & ANALYSIS

After the results are viewed, cases selected, and areas of interest are pointed out, the qualitative analysis step can take place. In the qualitative analysis ('Discussion' - chapter), this thesis uses the previously extracted numeric and semantic material as the basis for discursive analysis. Theories presented in the 'Literary review' -chapter will use a multi-dimensional framework or lens through which the extracted material is analysed, framed and presented. It is important to note that not all the material can or even should be categorised, systematised or labelled via an academic theory.

Hence, the theorisation procedure is not exhaustive as it may be understood from the presentation, but as an effort to the concise vast amount of information in quantitative and qualitative form, multiple perspectives from a multitude of actors, and a great volume of theoretical approaches. Hence this research discussion is undeniably a simplification of a complex reality, even though trying to maintain an awareness of the complexity without simplifying it to be something not to its original nature. Not to lose focus of reality and distort it during the process of simplifying it; the aim is to understand more, deeper and better, not less, wrong and to create additional biases.

This has been said; the following simplifying structuration is a mere shell for all the information that underlies this case and chain of multiple simultaneous events. This presentation is not meant to be understood as an exhaustive explanation or presentation. At its best, it may give hints or indications on what information a researcher could require more and from which perspective in order to fill a complete picture of this complexity of factors and drivers.

6.1 Critical perspectives and limitations of the method

It is crucial to notice that the method used in this study should not be universalised, nor the results are applied without a rigorous critical perspective. The nature of this study relies heavily on very narrow and predestined datasets and hence should not be applied to any other migrational event. As discussed previously, the very nature of any migrational event is highly turbulent, fragmented and unique; thus, any comparing or any effort which aims directly universalising the results would not result in any accurate information. Any new research done applying a similar methodology should be conducted as a separate, singular case study by itself and not be universalised. The limitation of this narrow version is a mere truncation of further open-source and social media analysis. Due to the framework of an academic master's thesis, this is not the perfect example of how this method should be used. This thesis is merely an explorative effort to examine whether this method can offer any informational results and how the results can be analysed within the theoretical framework of push-pull drivers.

The purpose is to examine whether any results may be useful for academic research purposes or to be utilised for any NGO, INGO or a humanitarian organisation. This method may offer instant additional information about an occurring migrational event and may be useful in particular moments when there is either no or very scarce information available from the field where the events are taking place. This may assist researchers in obtaining information without access to information directly from the field or without being physically present at a location of a migrational event.

However, the limitations of this particular way of applying the method are very obvious. The information obtained may offer information about the general interest of the migrational event, potentially information related to the emphasis of where specifically (in the country of origin) the migrational event is subjected to more curiosity, and perhaps even which ethnic groups are emphasised in the migrational action. This information obtained is highly referential since the curiosity shown in the Google queries does not necessarily result in migration itself, and hence the quantitative numbers of queries should not be related directly to the number of people who factually partake in a migration itself. This study shows mere indicators that might suggest something that a researcher should examine further. In addition, in migrational events, there may be already available information provided by media sources, governmental data and by humanitarian organisations already working in the field. The result may be that the information obtained using this method will be only trivial and merely confirm the situation and conditions which are already known from other sources.

In addition, the theoretical framework is used as a systematic lens, through which the information obtained by using this method is furtherly analysed. This being said, the systematic framework of the push-pull plus is far from being exhaustive and does not fully explain all the aspects of any complex migrational event. The theoretical framework is merely an effort to systematise and categorise the information underneath a variety of labels so that the complex nature of any migrational event can be deconstructed into a more comprehensive presentation. The dilemma in this theory is that conducting the deconstructive process results; it eventually results in the simplification of the drivers and in an artificial categorisation where additional assumptions in the decision making of a researcher may bias the emphasis of the framework itself. Thus the theoretical framework and any results analysed by using this method should also be read from a critical perspective. The deconstruction of the drivers and factors is, by definition, a simplification and subjected to a bias of the researcher, which might miss crucial elements (for example, the hybrid nature of the root causes) and result in not being a complete picture of a migrational event.

6.2 Terminology

Not to forget the greater framework of this case; it should not be taken for granted that contemporary (eurocentric) European media sources and local public debates have a heavy gravity perspective bias. This can be reflected in multiple different ways. For instance, bias caused by eurocentrism can result in different events. Not all migrants from the Middle East or African continent want to migrate and settle in Europe. There is plenty of migration within African continent itself. But also, it is good to notice that there are also wealthy (economic drivers aspect) Gulf countries in close proximity of distance, culture and religion, but they are not witnessing similar mass movements as in Europe. Terminological selection and awareness should also include the awareness of one's own spatial, geopolitical, religious, and cultural bias, and even though not possible to live without it, being aware of different perspectives and how the terminology is chosen also shapes the reality and how people perceive it.

6.3 Fragmented & Turbulent drivers

As noticed from the mutually co-existing diversity of different categories, it is important to notice how the drivers may be fragmented and turbulent.

Fragmented: it does not need to be only one destination, one expectation that drives a decision process of migrating, or one family member, but the evidence presents that the case in this examination is extremely fragmented. With constant consultation, diplomacy, voting, group decisions, and individual aspirations, the reality is more fragmented than many models would estimate. This being said, also this thesis aims to prove evidence that main tendencies and trends can be detected to a certain limit, and that limit is blurry due to the fragmented nature of migration.

In the case of the migrational event between Iraq and Belarus, there are clear indicators of the fragmented nature of the event. The data indicated a fragmented interest for countries of destination, varying from Belarus to Lithuania, Poland and Germany. In addition, the limitation of this study did not show further aspirations whether these

countries mentioned are, in fact, the final intended destinations or not. Also, fragmentation can be seen when analysing the keyword prevalence within the country of origin, Iraq, in this case. The interest was not equally occurring but appeared to be fragmented. It appeared that overall there were more queries of selected keywords done in northern Iraq than in the rest of the country. North Iraq is simultaneously populated by ethnic Kurds, as the area is generally referred to as Iraqi Kurdistan. Some media sources (FT, 2021) covered some of the hybrid intentions of Belarus and Russia. This hybrid campaign orchestrated by the Belarusian and Russian governments may have been more concentrated on the northern part of Iraq. However, this study did not focus on finding supporting evidence for that assumption.

Overall the limitations and shortcomings of this method can be seen particularly in this topic since the data can show evidence of specific geographical emphasis but fail to provide explanations for the root causes. In this case, there can be detected a fragmented interest in the migration event. However, the data does not provide suggestions on what the driving reasons and mechanisms behind this phenomenon are.

Turbulent: It is commonly argued that a change by itself is the only unchanging variant. It appears to be the case regarding the turbulent nature of migrations. Generally speaking, it does appear that migrational currents change directions and volumes according to the environment enabling, motivating, or preventing their flows and movements. Policies can and do change, even rapidly. The case of Poland is an example which defies international law to gain leverage to prevent migration from happening. Alexander Lukashenko, the dictator of Belarus, in his retaliative campaign (advised by the Russian government, which is also an expert on indirect hybrid operations), managed to contribute to mobilising the migration of thousands of people.

It is important to notice that this current, contemporary situation will not stay as it is. The events in 2015 were enabled by the laws and regulations that did not prepare for that kind of campaign. Six years later, 2021 is still a very freshly post 2015 reality. In this latter particular case, European regulators have been tightening the laws. Perhaps a certain

amount of similar migrational motions took place previously underneath the radar (for example, the migration trend from Somalia via Russia) and happened without an understanding of the potential hybrid intentions of the enabling campaigns.

Any current situation will not stay as it is, and the movements, trends, policies, attitudes and opportunities do constantly change. Whenever one policy or regulation is set in a place, it might not be ready for another event that does not follow the same pattern. Reality is very turbulent, reflective and prone to sudden changes in reaction to external circumstances.

In addition, analysing through the sheer numeric results of the trends and how rapidly the migrant search engine queries changed, and also the migrational currents' directions shifted, the evidence from the data seems to suggest that the turbulent nature of modern migration can change extremely rapidly by its volume and the direction.

The turbulent nature of migration can be detected in the data. The most obvious example of this is the sudden change of interest towards Lithuania as a country of destination. After Lithuania applied strict measures at the border, the interest in Lithuania plummeted immediately. (Lithuanian Department of Statistics, 2021) Overall, turbulence can be seen in the case as a whole. Only after the hybrid campaign by the Belarussian government was launched was the interest related to migration soared. In addition, measures which were aimed at preventing the migrants from making the journey by terminating flights at some airports, the migrants did find other routes to complete their journeys. These turbulences are subjected to the policy changes, as the case presented related to the hybrid campaign, cancelling flights and closing borders.

6.4 Criticism of 'voluntary - involuntary' axis

A critical perspective toward strict and often artificial categorisations was presented in an article by Erdal & Oeppen (2018). As it was discussed in the article, voluntary migration or forced migration are not exhaustive or sufficient categorisations for analysing the complexities of migrational phenomena.

In the case of events taking place in, between and out of Iraq, Belarus, Poland and Lithuania, the dichotomic presentation of forced or voluntary migration seems an even more radical simplification of reality than the examples portrayed in the original article (2018).

From the perspective of the 'voluntary' - 'involuntary' (or 'forced') -axis, it (partially) may appear that most of the Iraqi migrants in this particular migratory event have;

- a) They were allowed to leave their countries by the law of the country of departure and countries of transit.
- b) Did mostly their decision to departure on a voluntary basis (not forced by someone else); hence the decision has been mostly their own.
- c) The overall humanitarian and economic environment in (Northern) Iraq might not be labelled as an absolutely forcing circumstantial pressure based on existential threat, but certainly, it is agreed that there existed a vast amount of both humanitarian and economic pressure that does, in fact act as a driving 'push' force.

However, it seems also that the 'voluntary' mindset is preset on a certain set of attributes, such as false promises from the Belarusian government propaganda. Expectations formed and decisions made on top of incorrect information (fake news, propaganda, social media rumours) distort the equation to a new form that might suggest that the wanted outcome that was the basis of the voluntary departure does not correlate with the reality, hence resulting into unwanted outcome, disappointment and desperate actions.

There are obvious reasons why to be critical of this dichotomic division between voluntary and involuntary migrants. As noted in the fragmentation and turbulent natures of migration, there does not exist a realm of simplified binary dichotomies; there are no 'black and white' circumstances in reality. A researcher should be careful of not cutting edges short by judging or defining whether an individual has indeed such dire conditions and future prospects that a researcher would claim a decision to departure to be on a voluntary basis, even though there might not be 'official' absolute reasons to migrate. Even if the

circumstances in northern Iraq are not labelled as existentially threatening, it does not mean that it would not be the case. The Iraqi Kurdistan area and its people have suffered from Saddam Hussein's genocidal campaigns, from the first and second Gulf Wars, and lastly, the violent campaigns by ISIS in the aftermath of the 2011 Arab Spring and the violent turmoil which followed. The Kurdish population and the minority of Yazidi Kurds have suffered exceptionally due to getting targeted by ISIS (Washington Post, 2021). Although most of the violent conflict has settled, the concerns and fears of future violence have not disappeared. The recent history of continuous conflicts and violence targeting the Kurdish population has consequences, and this may be one factor behind the evidence from the data that the Kurdish population from northern Iraq was a more active counterpart in this migrational case. Claims that the migrational decisions were mostly voluntary can be argued to be too simplified interpretation. In this particular case, an opportunity can be seen as a trigger, so one may argue that certain opportunistic behaviour may be involved, but from a larger historical perspective, there has occurred such severe violence against Kurds that partially 'forced' leaving can also be applied in this event. Based on the recent historical evidence, one could argue that although a violent threat was not immediacy threatening, the threat is certainly imminent.

6.5 Push-pull plus framework: Creating driver complexes

Applying the theory of push-pull plus framework (Van Hear et al., 2018) in this practical case is not a straightforward task. This systematisation is not exhaustive, and since its semantic nature, it involves interpretational choices that a researcher must make in order to form a picture from the data and information provided. It still may be confusing which particular component (actor, event, policy change, etc.) or change in the conditions of components is seen through the lens of these theories and to which categorisation or systematisation it should be labelled. As a reminder guideline from the theoretical perspective: *Factors* are conditions which shape the form of migration, while *drivers* function as activated factors (Van Hear et al., 2018).

The research will then proceed by firstly identifying drivers from this event, examining their dynamics and dimensions in regard to this case, and will proceed to systemise them

towards driver complexes and constellations (clusters) of driver complexes. The information chosen and added to this systematised structure is kept very minimal, concise and selective so that the overview of the structure would not disappear by the overwhelming amount of details and also that the example of the practical application of this theory would remain somewhat comprehensible.

As stated previously, this theoretical framework is far from being exhaustive, and as it is a simplification systematisation, it has its inbuilt limitations. The case of Iraq and Belarussia is far more complex than the data applied would assume, and hence the following theoretical presentation is also limited. Combining the limited dataset and the simplificative theoretical framework together results in an incomplete picture of the phenomenon itself. The framework of a master's thesis has its own limitations, and as mentioned previously, this is a mere truncation of a more complete and multi-platform analysis, referring to the lack of involving more data and utilising multiple social media platforms in the study. Thus this study is a simplified example of examining the method out of general interest. Any potential future application of this model should use a different structure, additional data and additional data sources from multiple platforms.

6.51 Identifying drivers (Functions and Domains)

a) Predisposing drivers: drivers that contribute to the creation of a context and circumstances in which migration is more likely to happen; structural disparities:

i) Economic disparities

Economic disparities between northern Iraq and Belarus do exist, and the disparity is even more apparent between Iraq and Germany. In this case, the economic disparity driver would implicate not only that there exists a general interest in migration from Iraq to Belarus, Lithuania and Poland, but in addition, the disparity driver would suggest that, indeed Germany would be the preferred primary destination. The differences in economic disparities would also contribute to the evidence why western Europe is more appealing or has a stronger pull-drive towards it. (LRT, 2021)

The evidence from the Google queries does indicate the existence of the economic disparity driver and would suggest that it has been one element driving the migrational event eventually towards western and central Europe, instead of primarily aiming to migrate into eastern European countries.

ii) Political disparities

The political environment in Iraq is known to be challenging. Although the political environment in Europe is challenging for migrants from the Middle East, it is still considerably and relatively safer if being compared to Iraq. In addition, *especially* if an individual is a member of an ethnic (Kurd) or religious (Yazidi) minority.

The data derived from the keyword analysis indicated that the interest in this migration event was more prevalent in northern Iraq and in Iraqi Kurdistan. Regarding the political disparities driver, this might suggest that the political environment for Iraqi Kurds is relatively more challenging compared to the majority of ethnic Arabs. These political disparities can be confirmed from vast literature already published on this topic, but it is important to notice that the data (Google queries, Interest by Subregion) would support the already existing evidence, where political disparities can be considered as an operative driver in this particular case. (LRT, 2021)

iii) Environmental disparities

This particular driver should gain more attention than is possible to provide within this thesis' framework. Environmental drivers and disparities potentially have much greater influence than is previously understood. There has already been proven chronological correspondence between drought in Syria and Iraq and emergent crisis in violence and migration in the area. In addition, there might seem to be a certain level of seasonal cyclicity and synergy between migration trends, seasonal changes and local environmental conditions related to the climatic cycles. This particular factor and a driver should be examined properly since the evidence of the progress of climate change-related effects would likely be increased in the future. Climate change is estimated to have a tremendous influence on the people's livelihoods in areas like Iraq. Thus the effect

of environmental disparity driver is estimated to increase its impact on the migrational events.

The data obtained in this study did not particularly implicate many elements of environmental disparity driver to be present. The only environment-related data was related to the queries related to Belarus (Country in Europe: Related topics). It appeared that the most searched query related to the country was 'Temperature'. This would indicate that there existed some concerns about the colder temperature in the region at the time of migration peak. Since there was no generic tourism to Belarus from Iraq prior to the migration event, this piece of data would suggest that potential migrants were searching the temperature in order to be prepared for colder temperatures, especially when the migrants were forced to stay at the border areas in outdoor conditions for days if not even weeks. In this case, the environmental disparities driver does not seem to be a pull factor towards Belarus, but instead perhaps even a preventing driver that would make the journey more uncomfortable and thus even slightly limit the number of migrants. Although this is an extremely speculative interpretation, it should be safe to assume that the environmental and temperature-related circumstances at the time of the event did not act as an additional encouragement for the migrants considering the possibility of migrating through Belarus.

iv) Geographical (& Geopolitical) factors

Geographical factors are related both to the environment and the political disparities: There is detectable correspondence to draughts and dry areas that have a connection to the "poor South", but this explanation is not exhaustive. A wealthy Gulf country, Saudi Arabia, is one particular example to mention; it is also dry and in close proximity to the predisposing conditions and precipitating events. However, it does not experience such similar surges of migrants as the direction of Europe does. All of the drivers affecting the geographical (geopolitical) drivers are not so visible, and as briefly discussed in the next driver (Proximate drivers: Countries and regions of origin), it appears there to exist

multiple open questions related to drivers related to geopolitical and proximate pull factors and drivers.

In this particular case, the geographical and geopolitical factors can be seen as prevalent. This argument is based on the evidence extracted from the “Interest by Subregions” and how Iraqi Kurdistan was relatively more active in the queries related to migration-related topics. As discussed previously, the Kurdish minority’s position in the overall geopolitical environment in the Middle East is challenged and experiencing imminent threats. It would be safe to assume that the geopolitical status of the Kurdish population would manifest as an existing predisposing factor and a driver. As the Kurdish population altogether is estimated to be between 36,4 million and 45,6 million, this would alone make the Kurdish population as a whole to be the biggest ethnic minority without an independent nation (Institute Kurde, 2017). There exists plenty of historical evidence of how the Kurdish minorities in the region have been oppressed and experienced violence.

When analysing the plain geographical element of the manifestation of this driver, it is notable that there were international airports in Erbil and Kirkuk that enabled rapid access to international travel. In addition, there is access from Iraqi Kurdistan further on to Turkey, where are multiple international airports. Based on the data derived from the Google searches, it is not possible to examine the impact of the propaganda campaign launched by the Belarusian government and how that was impacting the region and whether the campaign was targeted precisely in the Iraqi Kurdistan region. This is a clear limitation of the data being applied, and as the hybrid campaign was a major driver itself, this element should require further examination.

b) Proximate drivers

i) Countries and regions of origin; ‘Pushing’ proximate drivers:

Pushing drivers which can be detected in this case are related to the actual, potentially violent conflict and all the economic, humanitarian and infrastructural destruction and turmoil that followed and still remains prevalent in the area of origin.

Questions related to this particular trend or event may be discussed in the 'Precipitating drivers' part since those singular, observable events and identifiable developments are more likely to have more explanatory potential on these nuances, which results in the apparent difference in the trends.

Other pushing drivers that should be considered in this case are related to the ethnic and religious minorities and how they were overrepresented in the migration trend. What was the particular push factor in that area at that time that contributed to these specific minorities resulting in this event as it manifested itself? As the data indicates (Google searches: Interest by Subregion), the relative interest in the migration was emphasised in the Iraqi Kurdistan region. As discussed earlier, in relation to the apparent oppression of the Kurdish population in the region, the same conditions apply to this particular proximate driver. The overall challenges caused by Sunni extremists and ethnic Arabs toward the Kurdish population can be interpreted as a proximate push driver. In addition to all previously discussed ethnic related tensions, also the environmental and economic disparities can be seen as proximate pushing drivers. (LRT, 2021)

ii) Countries and regions of destination; 'Pulling' proximate drivers:

In this case, it seems that the real 'pull' is not located actually in Belarus, Lithuania, or Poland, but in the EU and Schengen area and countries particularly. This also being the case, even though the EU is not in the closest proximity to the area of origin of migration. This would indicate an inbuilt higher the risk – higher the reward -mechanism. It should also be mentioned, if not even emphasised, that there are open questions rarely addressed in this topic related to potentially positive proximity factors and the seemingly dissonant actualisation of drivers related to it.

As an example, even though familiar language, culture, religion and other factors would be there pre-existing as a potential positive pull factor, perhaps some meditative drivers are not enabling those factors to fully actualise as drivers that would emerge as in mass migration to the Gulf countries. Of course, there is a history of migration and migration

working force in the area pre-existing recent migration trends. However, this topic should be left as another topic for yet another study and further examination. An unanswered question is: Which are the circumstances that prevent those seemingly potential factors not to being actualised to become full force drivers? Is it the case that Europe contains certain other more appealing pull drivers that are non-existing in Gulf countries? Alternatively, are there (in other Middle-Eastern countries, such as Gulf countries) existing similar 'Push' -drivers (actualised push factors) that are also contributing to the migration push initially? Do those wealthier proximate countries in question partially have an unappealing push related factor, similar to the area of origin (Iraq)?

This perhaps should not be ignored as a mere side sentence. The question behind this phenomenon could be formed as follows: What are the positive and negative drivers in this macroscopic meta-trend in the region of the Middle East? The evidence derived from the data presented in this thesis does not answer these questions, and it is a clear limitation to this preselected narrow scope. In order to answer these foundational questions, this method which is being tested, does not seem to be the best option for further fundamental research. It is extremely unlikely that these elementary drivers and factors would be clearly presented only based on Google search query data. Nevertheless, it is speculative whether the proximate countries have similar oppressive structures that would act as a negative push factor, especially in the case of the Kurdish population.

c) Precipitating drivers:

i) Observable, identifiable events and developments:

There are numerous observable events, identifiable developments, policy changes, and diplomatic actions related to this case study. This particular subchapter of drivers is particularly important and weighs a heavy effect on the overall nature, dynamics and the manifestation of this migration case. However, conducting a detailed analysis on this thesis is not included in the content of this thesis, as the initial aim of the thesis is to generally test a hypothesis and analyse its function as an apparatus. There appear to be

multiple particular events, which are singular and unique by their nature, and analysing all the complexities and relations involved is not included in this format of thesis. In addition, it is crucial to notice that not all the precipitating drivers are still explained or researched: There remain multiple open questions about the detailed events and responsibilities behind these factors.

In this thesis, the detailed event analysis must be ruled out, and instead of exhaustive analysis, this will be summarised very minimally: There can be detected at least two greater meta-narratives: 1) continuum of events in the Middle East and Iraq and as a consequence, the predisposing contextual potential migrational pressure, and 2) a continuum of Belarusian political turmoils which resulted in EU sanctions against Belarus. As a consequence, Belarus' president Alexander Lukashenko's regime launched an offence as a retaliation campaign which aimed to create political pressure and hence negotiable power. Within these two greater meta-narratives, there appear multiple micro-narratives within these two greater narratives, in addition to these other external narratives that merge with the two in question and ultimately a manifest multitude of other events within this same case. Overall, the multitude and complexities of analysing all the observable, identifiable events and developments should require another study of its own.

However, the main observable and identifiable precipitating drivers ought to be mentioned, although briefly. As discussed earlier, beyond the traditional theories of explaining and analysing migration events, this particular case includes a distinctive identifiable precipitating driver: The hybrid campaign created by Belarus and Russia. The presence of this campaign is obviously deducted from other media sources (FT, 2021) but is not clearly present in the data derived from Google queries. In fact, the existence of the propaganda campaign does not manifest in an observable way if not considering the timing itself and how it correlated with the campaign. Nevertheless, there are no clear indicators in the data which would present any evidence for the hybrid campaign to existing, not from this data at least. This situation leaves an open question: Could the apparent hybrid campaign be detected using similar methods but by using a variety of different datasets? As the campaign and the false information were spread on a variety

of social media platforms, including Facebook, Twitter and Telegram, there might be a method to derive relevant data from these platforms. However, this would be a research that would include multiple ethical concerns, and those concerns should be addressed by strict restrictions and respect for the existing privacy laws.

d) Mediating drivers:

i) 'Positive' mediating; enabling, facilitating migration:

A single most influential development that can not be left without a mention is the active role of the Belarusian government (and the potential role of Russia as the consulting expert in the field of hybrid operations) and how they orchestrated this event. In other words: How they manipulated actualising the potential of pre-existing factors to be fully energised and active drivers. The Belarusian government seemingly is the main force manipulating these drivers into action. As discussed earlier, a single action can be included in multiple driver categories. As the impact of the hybrid campaign is so influential, it is repeatedly expressed throughout different driver aspects.

Other silent mediators did exist that enabled the trend to continue. This is speculative, but actors such as Turkey, United Arab Emirates and Saudi Arabia can be seen as partially silent mediators who contributed to the continuum of migrational events from Iraq. Simultaneously, they may have acted as negative mediators (for example, Turkey) since the borders between positive and negative effects are not mutually exclusive and can exist simultaneously. In this case, Turkey could have acted firstly as a positive mediator by enabling the migrants to travel via Turkey and then acted as a negative mediator when preventing flights to Belarus. In this case, the distinction is not that clear whether the role of Turkey alone was either positive or negative, but perhaps they both simultaneously gained political benefits from changing policies in favour of the EU.

ii) 'Negative' mediating; constraining or even diminishing migration:

As an example, the diplomatic pressure on the Iraqi government halted direct flights from Iraq to Minsk. However, there were a variety of existing secondary routes, for example, via Istanbul and Dubai. In this case study, these negatively mediating policy changes did occur; however, it is not clearly interpreted from the data in this study. There were no clear indicators which would suggest the role of the mediators in the datasets. Nevertheless, it is not completely impossible to extract data related to the mediators by applying different datasets.

However, the policy changes in Lithuania did contribute to the direction of the trend and the volumes in Lithuania primarily, and this was present in the open-source data. A clear example of this was the data extracted from the Lithuanian Department of Statistics (2021). This official data, combined with the Google search query data, clearly presented how the query interests towards Lithuania plummeted suddenly after the new measures at the border. However, the event cannot be clearly explained only by analysing the data itself, although the halt of the migration trend to Lithuania was clearly evident. The data from keyword queries offered no explanation for why exactly the trend plummeted. This is another example of the shortcomings and limitations of this method since it may present an indicator of what occurs; however, it fails to explain why an event occurs. To find explanations what are the driving forces of an event, in the case of Lithuania, a researcher must rely on other sources in order to find an explanation. This is another proof of how this method based on Google data alone is not sufficient for explaining any current events, and it is obligatory to obtain additional information from other sources. Again, this method can clearly serve as an indicator for ongoing events; however, it does not explain the reasons behind the events.

6.52 Dimensions of Drivers

This additional layer of dimensions will bring a required additional perspective that aims to answer the question of what a driver does factually and how it operates in practice. If the driver itself is an actualised function, dimension offers a layer of perspective and insight into the modus operandi of the functions.

Dimensional layers:

i) Locality:

In this case, the place of origin of the migrants and the demographic majorities are enclosed as earlier presented. In this thesis, the focus of the migrational locality originated from northern Iraq and was directed to the EU via Belarus, Lithuania and Poland, as the evidence presented. Regarding the dimensional attribute of the drivers and the practical perspective of it, the analysis is rather a straightforward process. The drivers affected in countries which are mentioned in this case study, although the wider macroscopic dimension remains in the background. All in all, the macrotrend of migrants of the Middle East towards western Europe is a prevalent phenomenon, and as the research was focused within this framework, the data clearly indicated this attribute being involved in this study.

ii) Scales: Two sets of scales:

1) Spatial Scales: Local, national, regional, global

This event operated on all the scales, which have spatial attributes, ranging from global, regional, and national level scales (Van Hear et al., 2018). It is another question to examine on which level of spatial scale the migrational movements are more active, how are the volume differences, and how are the local spatial scale migration trends different from global-scale trends. In this study, there were clearly these aforementioned scales present. The events on the local scale, for example, in Iraqi Kurdistan and in the case of Lithuanian border control policies, the event of the migrational was clearly distinguishable. This applies to the national and regional levels of Iraq and Lithuania particularly. Regional elements were detectable in the search queries, particularly after the Lithuanian border was closed since the turbulent migrational flows were directed to Poland immediately after the policy changes. At the global level, the migration flows from the Middle East toward the EU are generally recognised and are part of the meta-level framework of this particular individual case.

2) Social scales: Individual, household, family, community, population

This case affected social scales at all levels, including in the area of origin. In the areas of destination, the social scale level is disputable. There are clear differences in the social culture and the formation of family structures. Traditionally there is a stronger family structure in the Middle Eastern and Iraqi cultures, and a family unit is traditionally more active and communal than in modern-day eastern European social cultures. This would indicate that there is more family, household and community level related impact related to the migration, more than is shown in the data-based evidence. Overall the social culture is less individualistic and more communal, which also could result in more networking among extended families and community members regarding the migrational journey formations (LRT, 2021). However, these social scale levels were not present in the data since the dataset was extremely simplified and did not contain any data from social media platforms. The social media platforms might offer data related to the communal perspective and social networking involved in the case of migration; however, since this study did not apply these sources in question, the communal level involvement remains an unanswered question.

iii) Selectivity: Gender, Class, Generation, Ethnicity, Language, Religion:

The various aspects of selectivity as a dimension are significant when analysing a particular migrational trend's deep-rooted reasons and factors. However, from the basis of the data provided by this method, most of these aspects remain hidden in the results. This is another proof why there should exist an elementary requirement to obtain compensating datasets from different sources, which would fulfil these missing segments of data and information. Despite the shortcomings of the preselected, limited data, there are certain speculative assumptions that can be presented, even though the limitations of exhaustive explanations have been acknowledged.

- a) Gender cannot be reasonably extracted from the Google search data alone. However, the gender-related data is potentially accessible from open-source immigration department statistics databases. In this case, the media sources

confirmed the emphasis was on male individuals, as it has been in similar migrations from the Middle East (LRT, 2021). Reasons behind this practice are provided in other studies related to the particular male gender dominance among migrants from the Middle East.

- b) Class is not an apparent dimension in this study; however it would be reasonable to assume that more there is the internet, search engine use and mobile smartphones available, the class of migrants would be not from the poorest segment of migrants. The supportive evidence for this can be found in the media sources where the costs of hiring smugglers are discussed (LRT, 2021). In addition, whether the SOCMINT (Social Media Intelligence) methods would be utilised in research primarily focusing on the social class of the migrants, there could be potentially more data to be obtained. This method nor additional datasets were not included in this thesis, so the question related to the class remains unanswered.
- c) The generational dimension is also not able to be extracted directly from the Google data. There is other evidence from the media sources, which seem to indicate that the migration is conducted mostly by a younger segment of the population. The overall assumption would also be that since new technology such as smartphones, the internet and social media is widely utilised in this particular case, it might suggest more involvement of the younger generations, but the answer remains speculative due to the limited nature of the data applied in this study.
- d) Ethnicity, language and religion-related correlations were detected and derived from the GTI Interest by subregion. The involvement of ethnic Kurds and Yazidis from the area of northern Kurdistan was also confirmed by multiple media sources (Washington Post, 2021; LRT, 2021). This dimension is clearly visible from the data extracted from the results of 'Interest over Subregion'. In addition, the evidence from the Lithuanian border statistics (Department of Statistics, Lithuania, 2021) also supports this finding. Other search terms using different language selection would provide much more evidence for ethnicity and different minorities whether this was to be the main focus of research. The correlation is also trivial

since the focus was particularly framed to include the Arabic language, and the regional selection was focused solely on Iraq. The case selection itself does answer the questions related to the language, despite the fact that the Kurdish language was not involved in this study. Nuances, such as the involvement and emphasis of the ethnic Kurds and the members of the Yazidi religion, can be derived from the data; however, solely based on the 'Interest by Subregion' related data. Confirmation of the Yazidi community members and ethnic Kurds can be confirmed from the media sources. (Washington Post, 2021; LRT, 2021) Yet again, the data provided indications and supportive information based on data extracted from the geolocation of queries; however, this data required further support from the media sources in order to be fully validated.

iv) Duration

The dimension of time duration in this particular case is limited. There were indicators of specific identifiable precipitating drivers which contributed to this migration trend. Especially the involvement of the Belarusian government enabled this migration event to precipitate; however, on the other hand, the policy changes conducted by the Lithuanian and Polish governments contributed to ending this trend. In a particular case study, there are detectable policy changes and hybrid campaigns that caused this migrational trend in question. This resulted in a very limited time duration of this migration event.

As in larger, historical and global migration macro trend perspective, this singular case was only one event related to the greater framework of the continuum of migration from Iraq and from the Middle East in general. However, this thesis did not aim to examine the greater global phenomenon as a whole. The framework of this thesis was strictly limited to the time duration of this particular event.

v) Tractability

Tractability is a dimension which would deserve another study on its own. As previously described in the literature review chapter: “This dimension aims to distinguish features that either operate on the surface of society and those that are more deeply embedded in the culture or practices of a society and thus more intractable”. These cultural features, particularly if operating on a deeper level of cultural, religious, ideological and behavioural level, are extremely challenging to prove as active drivers in a singular migration event. The tractability dimension is deeply influential in the everyday decision-making realm and thus should not be underestimated. Unfortunately, tractability as a dimension is commonly overlooked, confused as a historical or cultural fact and often discarded from the core analysis. This thesis has its limitations regarding this topic also. The topic of tractability would require further in-depth analysis, which was not possible to conduct in this framework. The data presented in the study did not involve sufficient supportive insights in relation to dimensions of tractability.

6.53 Constellations of driver complexes

There are several analogies that aim to prove a larger scope understanding of the nature, dynamics and formations of the clusters of macro trends. Some of these structural elements include terms such as ‘migration infrastructure’ (Xiang & Lindquist, 2014, as cited in Van Hear et al., 2018, p. 932) and the ‘culture of migration’. These macroscopic terms aim to describe the multiverse of migrational phenomena. However, these ‘all-inclusive’ terms are rather ambitious as well as over generalising.

Whether there is any need to find specific and describing macroscopic terms or general analogues is highly disputable. In addition, it appears that there are several existing additional choices in relation to pre-existing analogical terms. Within this brief examination, it seems that the analogue which would describe the multitude of complexities and intertwined clusters would be described as ‘Constellations of driver complexes’. Within this term, the singular yet connected micro- and macroscopic trends form a greater macroscopic constellation.

This term consists of the aforementioned systematic theoretical construction, in which the factors are potential functions, and the drivers are actualised functions (operating on a variety of domains on different volumes and scales), including how the dimensions explain the *modus operandi* of migrational events. All this together constructs an image of how a migrational phenomenon manifests itself. Overall, it would appear more sensible to see the dynamics of complex driver constellations as an analogue of *a neural network*.

Summary: Analysis based on the results, it seems that specific *signals* of the push-pull plus theoretical framework have a certain level of detectable synergy between different sets of driver compositions. The results are not explaining which driver complexes at which driver-specific constellation react in a particular or predictable way. There did not exist any foreseeable patterns which could create a specific predestined outcome or which could be forecasted. However, there might be a niche for more elaborated research on whether there exists any universality behind these seemingly particular, apparently unique neural-like complexes. This thesis was not a suitable format for this research, and any attempts for further examination should involve more and different data, including data from a variety of social media platforms. Despite the additional efforts, it appears that the results would still be only indicative, not explanative.

7. SUMMARY

Firstly, it is apparent that there is not a single exhaustive conclusion. A more descriptive title for this chapter could be 'Insights'. The result of this thesis does appear to leave more open questions open than it was able to answer. The findings could be categorised into three different categories; findings of a) the theoretical hypothesis, b) observations about the 'apparatus' utility and c) further insights for the possible future endeavours.

One of the insights that are worth mentioning is that despite the obtained values, ideologies or intentions of a potential reader of this thesis, and whether the reader represents a private, non-governmental organisation, governmental institution, research, or political ideology, the same insight should concern them all: It is obligatory to

understand that without fully understanding the driver dynamics and mechanisms of the complex migration constellations both on the macro and micro levels, it is not reasonable or responsible to create any direct, simplified or exhaustive conclusions. Simple answers do not exist in complex systems. Whatever the intention might be, these attempts include a great risk of resulting in a biased outcome. Without understanding the dynamics behind the apparent events, the results will be both biased and limited. In general, the most obvious, apparent or direct conclusion might result in a simplified version of reality, an example of positivist tradition's intellectual error.

7.1 Findings of the theoretical hypothesis

Firstly, the practice and the theory should not be separated as different entities. The part of the hypothesis which could be confirmed was a detectable correlation between the events in chronological and spatial attributes. However, it is too bold to claim that all of the similarities would have undeniable correlations. The strength of the correlation was not measured sufficiently, even though some apparent or even trivial correlations were detected.

The main finding related to the hypothesis was that there were detectable correlations; however, the correlations were indicative, not explanative. Additional information sources were required to explain any of the numeric or spatial data. Accuracy is not either a simple qualification to be determined in this study. There were detectable chronological saturations in the data, such as the increased number of search queries related to the destination countries. However, the accuracy is very disputable since GTI did not offer more data than the index itself. A spatial correlation was also detected, and the emphasis of the interest was located in the region of Iraqi Kurdistan, and additional media source-based information confirmed this result related to spatial and geographical information.

Was there any utilisable information or insights derived from the results? By this level of research (simplified examples, mainly English language, without SOCMINT (Social Media Intelligence) or other additional screening tools involved, the level and amount of new

information were limited. The research resulted in confirming events from open-source data and from the OSINT (Open Source Intelligence) perspective. Furthermore, in some cases, the method was able to provide more information than the original data indicated at the beginning of the research: The example of added informational value was the spatial emphasis of interest (northern Iraq) and the detection of the rapid evolvments of changing interests (volatilities detected in turbulent nature of changing queries). In addition, the method did indicate external curiosity outside Belarusian borders and outside the targeted countries where the study was initially focusing: An example of this was related queries of Germany.

From the theoretical perspective, after systematic categorisation of the drivers and by formulating initial structures of driver complexes, the study illuminated how specific drivers emancipating together resulted in synergies that were not visible prior to the research. These connections were mostly undetected before the theoretical deconstruction of the case. Some particular push drivers influencing different pull drivers, while simultaneously certain domain-level circumstances were enabled, resulted in unexpected escalations. Certain signals appeared to be amplified by specific drivers, and resonance between different drivers appeared to catalyse events above all previous estimations. These detected synergies, case-specific dynamics, amplifications or catalysing elements would deserve extended research.

As previously discussed, an analogue of neural networks can be a descriptive unifying term. Within this analogue of neural type networks, signals are amplified, saturated, vanished and tensions charged. This analogue is more descriptive of its distributed structure and essence. In addition, the term does include the nature of fragmented, even sporadic turbulences that may occur within the migrational phenomena.

Migration events are not monolithic by nature, dichotomic by ideological standpoint, nor able to be simplified as a mechanical blueprint. Migrational events appear to be more fragmented, crowdsourced, multidimensional and distributed than the previous literature would suggest. These 'neural' networks, in certain cases, presented strong singular

signals of distinguishable drivers. However, most of the information embedded within these neural networks remained hidden. The information could be elements of practical experience, tacit know-how and intelligence, communications and solid and determinant operations. An analogue describing the formation of migrational trends appears to resemble a 'current': A motion of multiple waves moving in different directions simultaneously. Hence the apparent dichotomies such as push and pull, origin and destination may operate simultaneously. The motion of migration is not simply the movement of people towards one specific direction but a multitude of different motions. Migration trends seem to be more volatile, reactive and reflective of the environment than understood from the basis of previous presentations.

Technological developments have made information spread rapidly. Novel social networks operating on social media platforms enable another realm for rapid migrational trends. This thesis was a contribution to these contemporary developments. Where there arise novel behaviour changes by a novel enabling technology, there will be an equivalent novel method how to study it, enabled by the very same technological developments.

7.2 Observations of 'the Apparatus'

By judging from the operational capabilities of this 'apparatus', the conclusion statement would be that the utility of this method was equivalent to the levels that it was operating on: The method worked on the level that it was operating on and within the depth which it had the predestined settings for. However, this level and set-up were not sufficient enough. It worked as an example on "how-to" and on a basic simple setting level, but the method did not produce much additional value over the trivial knowledge nor in addition to what was known from different sources.

As mentioned previously, the information this method was able to produce was more indicative of its nature. The indications relied upon additional information in order to be confirmed or explained. Hence there were clear limitations and shortcomings within the method. This was partially due to the very limited and basic datasets combined with the limited open-source data platforms. Despite these potential improvements, additional

information from other open sources, such as media coverage or publically available governmental statistics, would be required. A combination of complete coverage of data and explanative information should provide a complete situational picture. In addition, it is crucial to notice how this method is case-specific and should not be interpreted or the results to be compared directly to any other singular migrational event. Each case should be studied separately.

It was clear that the academic master's thesis as a vessel or a platform for this apparatus was not ideal or sufficient. The limitations were clear in the data processing stage since deeper and more meaningful insights would have required heavy-duty data processing. In addition, the thesis was already calibrated differently; taking another data set in addition to already pre-existing ones or changing datasets or tools altogether was not a viable option due to the time and volume restrictions. The aim of this thesis was a general level testing of the methods in question, and it provided limited results based on limited calibration.

What is not elaborated in this thesis was the realm of the SOCMINT (social media intelligence) related analysis tools and their full potential. The next step for any further examinations would require a redirection of the focus into specific areas, such as cities and regions in Iraq, Belarus, Poland and Lithuania. There are existing tools that are able to observe and scrape open-source data from social media platforms. The parameters for these tools are more flexible than GTI or SEO can offer. These tools may be focused on the basis of multiple attributes, such as accurate geolocation. In addition, the intended timeframes can be set precisely. Within these tools, the popularity of social media signals can be fine-tuned to extract the most 'liked', 'shared' and 'popular' comments and content. All the parameters can be tweaked to the researchers' liking. In addition, the related terms can be combined with these parameters, including any language settings. Additional value also includes the ability to follow specific social media users, general users, or followers of users. There is a vast horizon of options for what this tool could do; however, it is not ethically problem-free. There should be strict measures to secure the information privacy protection of the social media users and the information they share. This method

is available for academic researchers on some the social media platforms, such as Twitter (Twitter, 2022).

Probably the most utilisable feature of the method, and which was absent in this thesis's presentational apparatus, is the ability to set the open-source data scraping as an automated data crawler and data scraper. This would enable setting the parameters in a way that the data scraping would be continuous. Instead of examining single events retrospectively, this feature would allow following multiple situations, cases or trends simultaneously and continuously. In addition, this function could even alert a researcher whether there is an anomaly or detectable elements for a potential catalyst. This is where the real curiosity and utility would be for any research purposes.

7.3 Insights for future applications

There are plenty of other purposes for this method that could be modified for migration-related studies. This general testing in the form of a thesis is merely one single example. In terms of peace research, this method could have added value to offer for organisations or institutions that would value information which could help to conduct pre-emptive measures for emerging conflictual events. The method may assist in detecting rapidly precipitating trends, which could require an immediate response. These events could vary by content, as long as there exists a sufficient amount of observable data by internet users. The amount of this open-source data is growing by absolute volumes but also spreading to areas that have been unresearchable due to lack of widespread internet but are soon to be changed.

Technological development is imminent, and infrastructures enabling this method are spreading; hence also, the tools for utilising open source methods are developing. In developed versions of this method, the selection of different methods may be similar to the simplified method in this study but should not be limited by the selection of methods used in this study. The depths of open source information and data-driven horizon remain yet mostly unexplored, and there is a void for more functional methods. There does not exist one single method which could provide all the information or which would be

overwhelmingly supreme. Every singular case study would require a selection of different methods, elements, parameters and case-specific settings to it. It appears that multiple varying instruments, tools, methods, data sources and perspectives are all required holistically. The enabling technology is already there in terms of hardware; however, the software provides the results required. In the end, any of these tools or methods are as good as the algorithm and parameters coded within it.

As stated previously, there does not exist a single method which could forecast events accurately, and since every trend and event is uniquely different, a new setting or model would be needed to correspond to the purposes of any singular new trend. A certain level of nowcasting can be seen as possible if the parameters are set accordingly. The question remains whether it is possible to nowcast any events accurately. There is some existing evidence that nowcasting may be utilisable in particular case studies. This is a question a researcher has to evaluate case-specifically before making any claims of being able to forecast or nowcast any trends. Although a crystal ball with accurate forecasting abilities does not exist, and although there does not exist a single model which could accurately correlate with reality, it can be argued that certain models are more accurate than other models. Thus efforts toward creating a more accurate and functional method or model do not need to cease.

If there were one single purpose to extract from the testing of this method, it would be to increase the situational knowledge as any event is ongoing. To have a method to obtain information as an event occurs, not afterwards. In the case of social sciences, it is most obvious that collecting information is required before any new knowledge can be obtained. Generally, any new knowledge mostly requires the analysis to be conducted after the event has already passed. In the field of empirical studies, it is common practice to create models which could correlate with the events retrospectively. However, any retrospective wisdom might be too late for utilising the insights when the knowledge would be most needed. German philosopher G. W. F. Hegel succeeded in capturing this element of the retrospective nature of wisdom in the following descriptive statement (Blackburn, 2016):

When philosophy paints its grey on grey, then has a shape of life grown old. The owl of Minerva spreads its wings only with the coming of the dusk.

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