A Systematic Mapping Study: What do We Know about Border Area Issues in International Relations?

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Abstract
Systematic mapping study (SMS) in this article is used to structure a research area and analyzed previous literatures in International Relations with a research focus in border areas. The most recent guidelines for systematic mapping were in 2008. Meanwhile, there are needs for researchers including doctoral students to conduct the process of systematic mapping to find out a gap and novelty on research related to border areas. It comprises countries in Europe, America, and Asia, which are still on a limelight of the debates. This article aims to identify how the systematic mapping process is conducted (including search, study selection, analysis, and presentation of data, etc.) and improve potentials in conducting a systematic mapping process and updating the guidelines accordingly. Search was done on Scopus database online. SMS offers an overview and contributions to explore more new subjects in international border areas. It creates a map of current literature and can ensure helpful outcomes in practical use to identify gaps in future research. Researchers can use this study as a reference in conducting International Relations studies especially in developing the topics of border areas.

Keywords: border areas, international relations, systematic mapping study.

INTRODUCTION

Border areas are the main gate of a country in defending territory from its neighboring. It is inseparable from the involvement of several developing countries wishing to develop along with developed countries in Europe, America, and Asia. Hansens (1992) describes border areas as natural areas where economic and social life is directly and insignificantly affected by their closeness to international boundaries. Inevitable collaborations among border areas and integration between countries are driven by several interrelated variables, particularly their history, background, ethnic groups, adjoining regions, trade, natural resources, regional integration projects, and local culture (Bonchuk, 2011). The development in border areas has been one of the important issues since these areas are the
force of defense of a country to prevent the nearby countries not to take advantage from them. The development in border areas is part of the national mid-term plan agenda to ensure territorial integrity and sovereignty and to improve community welfare (Sudiar, 2013).

Frequently arising phenomena in border areas are frictions in territorial issues due to the differences of each country which leading to various conflicts. Some of them, as Nadalutti (2012) found in the territorial issues of Italy and Slovenia which has been marked in the past by violent ethno-political divisions and by the presence of significant ethnic minorities can be resolved by strengthening the role of regional actors. This case indicates that cooperation programs in the European Union (EU) border areas have transferred regional power and administration from central government to regional government (Nadalutti, 2012). Another finding comes from Koch (2018) who said territorial issues must involve one or more aspects from four different forms of belief, namely personal-rational decision, socio-cultural understanding, general-personal interaction, and institutional environment (Koch, 2018). This opinion emphasizes the importance of sub-state actors as the main agents in the establishment and maintenance of trust, even though several of their activities are challenged by territorial issues in border areas such as Europe-Finland with national border regulations.

This article is an initial research that tries to explore previous studies in the field of border areas in the study of International Relations using Systematic Mapping Study (SMS). The purpose of mapping with SMS is to know and to map the topic of border area that has been researched so far. The results of this study are academically expected to be able to encourage and to guide future researchers to undertake further studies in the field of border areas in the study of International Relations. In practice, this article is a scientific contribution to show comparisons and other perspectives on border area development and address issues that often arise from countries in one region.

SMS is different from a systematic literature review (SLR) (Petersen et al., 2009). The differences of the two are, first, SLRs aimed at reviewing best practices based on empirical data while SMS aims to classify data and thematic analysis of a certain theme of scientific publications. Second, SMS allows all publications to be carried out more generally while SLRs are more focused. Third, SLRs pay attention to the quality of articles while SMS does not pay attention to the quality of articles (Kitchenham & Charters, 2007; Petersen et al., 2009). SMS describes a study on a high level, focusing on ‘mapping’ instead of investigating the questions of the study (Petersen et al., 2008). In other words, SMS can be considered as a method to obtain an overview of a particular field (Kitchenham et al., 2011), since SMS-based study explores information in details (Brereton et al., 2007).

The novelty of this article is contributions of SMS method in strengthening and developing the existing study of border area in International Relations. A few SLR about border area in International Relations is discussed separately, hence, the goal of this study is to provide a map of existing literature for practice improvement and to identify gaps or state of the art for future research.

RESEARCH METHODS

The research method used in this study is SMS or also called scoping study (Kitchenham, 2007). This is a method with a qualitative approach and has been widely used in research in the field of software engineering (Mohabbati et al., 2013; Catal & Mishra, 2013). However, this method of research was initially carried out in the fields of health and medicine (Kitchenham, 2007). Kitchenham (2007) further explains that SMS is “a broad review of primary studies in a specific topic area that aims to identify what evidence is available on the topic.”

The questions of the study in SMS are far broader than those of SLR (Kitchenham, 2007). The questions of the study concentrate on the categorization of topics regarding to the issues of border areas in relevant studies of International Relations.

The following three questions are made based on the arising issues in international relations in border areas between developing countries, regarded as having more opportunities and challenges to develop. For example, the countries in Asia bordering with developed countries such as Japan, Korea, Malaysia, and Singapore. Nevertheless, inadequate human resources in developing countries and the involvement of the government in formulating incon-
sistent foreign policy confuse investors and consequently slow the development in border areas. These phenomena are interesting to study.

**Table 1. Questions of the study**

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<th>NO.</th>
<th>QUESTIONS OF THE STUDY</th>
<th>MOTIVATION</th>
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<tbody>
<tr>
<td>1.</td>
<td>What topics have been studied in border areas?</td>
<td>Identifying the topics of border area studies.</td>
</tr>
<tr>
<td>2.</td>
<td>What is the dominant approach/method applied in the studies of border areas?</td>
<td>Identifying the dominant approach/method applied in the regional studies.</td>
</tr>
<tr>
<td>3.</td>
<td>What phenomena are predominantly taken as the object of research in the studies of border areas?</td>
<td>Identifying dominant phenomena in the studies of border areas in the context of International Relations.</td>
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Source: the data is processed by authors.

**SEARCHING STEPS**

To improve the accuracy of SMS studies, the search and analysis process must be as precise as possible. Thus, this section characterizes the process of selecting data sources, implementing strategies to generate search strings, and defining exclusion and inclusion criteria. This study adopted a search process from Petersen et al. (2008). In this process, each step has a systematic result and map (systematic mapping) as the end result of mapping process. Figure 1 illustrates the full SMS process used in this paper, carried out as directed by Petersen et al. (2008).

**DATA SOURCES AND RESEARCH STRATEGY**

We did electronic searches in the following database online. The research performed an online search of electronic databases indexed by Scopus. Search strings were determined using a strategy by Banaeanjahromi and Smolander (2015; 2016) with reference to the study by Barbosa and Alves (2011). The search string was created using the strategy from Barbosa and Alves (2011): first, we defined the main keywords; second, checked the papers that are already known in this area; third, looked for alternative forms of the keywords; fourth, we used Boolean operator to synthesize them into one search string. The final search string is as follows:

"Cross border" OR "Border area" AND "International Relations"

The final search strings amounted to 53 search strings. This search string was applied to search within the all article parts, such as title, abstract, keywords, and main body. The search process began in February 2018.

**INCLUSION AND EXCLUSION CRITERIA**

Determining inclusion and exclusion criteria is done...
in a systematic mapping study to exclude irrelevant articles (Petersen et al., 2008). Thus, it is ensuring the analyzed articles are only the relevant ones as presented in Table 2. The articles included were those from peer-reviewed journals and conferences related to cross-border issue. Discussion/opinion papers relying on secondary data were involved, should they focused on international relations in border areas and were published in journals. Meanwhile, the articles excluded were those unrelated to border areas, editorials, news, and poster summaries written in languages other than English. Supposing that similar articles were found in different databases, only one of them was selected.

**CLASSIFICATION OF ARTICLES**

The classification of articles in Figure 2 refers to that of Jørgensen and Shepperd (2007). It was carried out non-exclusively (Catal & Mishra, 2013). It allowed an article to be involved in several categories. The motivation category of the object of study was adopted from Bosma and Trompenaars (2008). The category of ‘unidentified’ showed articles that did not explicitly explain the motivation of the object of study. To analyze and to classify articles selected based on the criteria, the authors developed a classification scheme referring to that of Petersen et al. (2008). The classification process of articles is illustrated in Figure 2.

The authors compiled three categories to classify the accumulated articles. The first category was based on the methods of the studies with references. The second category was based on the types of papers referring to the classification presented by Wieringa et al. (2006). The third category was based on the focus of studies by applying keyword method as described in Petersen et al. (2008). Table 3 describes the classification scheme of this study.

**Figure 2. Classification process**

![Classification process diagram](image)

**Table 2. Inclusion and exclusion criteria**

<table>
<thead>
<tr>
<th>INCLUSION</th>
<th>EXCLUSION</th>
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<tr>
<td>- Studies that focus on border areas and international relations</td>
<td>- Papers that do not focus on border areas and international relations</td>
</tr>
<tr>
<td>- Written in English</td>
<td>- Written in languages other than English</td>
</tr>
<tr>
<td>- Only journals</td>
<td>- Dissertation, thesis, book section, product description, presentation,</td>
</tr>
<tr>
<td>- Papers that have been peer-reviewed</td>
<td>employment report, trade literature, editorial note, gray literature</td>
</tr>
<tr>
<td></td>
<td>- Papers that have not been peer-reviewed</td>
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<td></td>
<td>- Duplicate studies</td>
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</table>

Source: the data processed by authors

The selection of books, thesis or types other than journal articles was carried out. However, due to the limited number of search results desired and the limitation to carry out the analysis, the authors eventually selected a total of 53 articles discussing the impact of development and border areas from Scopus database.

**RESULT AND ANALYSES**

In the following sections based on the mapping results, the research questions are answered. The results are based on the 53 selected articles. This section is the result of the mapping based on the questions of the study from 202 articles on border areas, classified using Microsoft Excel based on the categories of focus, method, and type of paper. The results show 53 articles sourced from notable international journals, namely Scopus. It is appropriate to categorize and to analyze the documents.

The research uses Scopus database which consists of journals that have been reviewed and not include to the category of predators. In filtering articles, it must be based on articles that are truly relevant according to the category of strings that have been searched for. After the article is...
filtered, it can be put into Microsoft Excel which aims to distinguish the source categories contained in each article, such as abstracts and article titles, author names, sources of journals, years, countries of origin of articles, etc. clearly. Therefore, Microsoft Excel is very important to make it easier for researchers to filter and read articles that are relevant or not to with way find the categories be mapped for only suit the theme of the border area in the study of International Relations.

TYPE OF PAPER AND THE METHOD OF THE STUDY

The type of paper shows classification of study referring to Wieringa et al. (2006), in which studies are grouped into six categories: validation research, evaluation research, solution proposal, philosophical paper, opinion paper, and experience paper. The aforementioned 53 articles were then categorized based on this categorization. However, due to the unavailability of opinion paper and experience paper, this study only applied four remaining categories. This study also applied quantitative and qualitative approaches. Adopting from a study by Williams (1988), Musianto (2002) stated that a quantitative approach is an approach in which the process, hypothesis, field study, data analysis, conclusion, and writing style use the aspects of measurement, calculation, formula, and numerical certainty of the data. Meanwhile, a qualitative approach is an approach in which the process, hypothesis, field study, data analysis, conclusion, and writing style use the aspects of trends instead of numerical calculations, situational description, and in-depth interviews.

Figure 3 describes the allocation of the studies methods based on the topics in this systematic mapping studies. The most dominant method applied is qualitative approach. We analyzed that from 53 articles, there are 46 studies applied qualitative approach, 6 studies applied quantitative approach, and only one study applied a mix method. We concluded that this topic mostly used qualitative method than others, it means that we have more

<table>
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<th>TABLE 3. Category of classification</th>
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<tr>
<td>TYPES OF PAPER</td>
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<tr>
<td>Validation Research</td>
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<tr>
<td>Evaluation Research</td>
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<tr>
<td>Solution Proposal</td>
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<tr>
<td>Philosophical Paper</td>
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<tr>
<td>Experience Paper</td>
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<tr>
<th>METHOD EXPLANATION</th>
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<tbody>
<tr>
<td>Qualitative Method</td>
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<tr>
<td>Quantitative Method</td>
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<tr>
<td>Mix Method</td>
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<tr>
<th>FOCUS EXPLANATION</th>
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<tr>
<td>Development</td>
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<tr>
<td>Border Area</td>
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chance to explore by quantitative and mix method.

Figure 3. Distribution of methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Count</th>
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<tbody>
<tr>
<td>Qualitative</td>
<td>46</td>
</tr>
<tr>
<td>Quantitative</td>
<td>6</td>
</tr>
<tr>
<td>Mix Method</td>
<td>1</td>
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Source: the data are processed by authors

SMS analyzed type of papers and methods to find the pattern of methods applied in the studies of border areas in International Relations. Figure 5 illustrates the focus of the 53 studies.

There are several focuses discussed in the studies of border areas in International Relations. We can justify that the most dominant focus on this topic is about territory by 12 studies, government by 7 studies, business and security are 6 studies, civilization and geopolitics are 5 studies in total, and trade and law amount to 2 studies. It means there are many chances to explore articles at any focus with another study.

Based on Figure 6, the most dominant focus is European countries, carried out by 21 studies, Europe and North America by 7 studies, US border by 6 studies, Taiwan-China border by 5 studies, Finland-Russia border by 4 studies, Southeast Asia by 3 studies, and Schengen and Boko Haram by 2 studies.

Figure 4. Annual trends of publication

Figure 4 shows the trends of studies published in electronic media databases from 2007-2018. The authors found that the studies are not constantly increasing annually. The total publication in the period of 2013-2015 amounts to 18 publications, slightly higher than the total publication in the subsequent period, namely 2016-2018, amounting to 17 publications.

From 53 articles, validation research and evaluation research are the most general types of studies during 2007-2018, with fluctuating trends of publication. However, there are several limitations in this systematic mapping process. The journals were tracked from merely one scientific database, namely Scopus, instead of all existing journal and conference databases. Moreover, this study included merely English articles, international journals, conference papers, and literature reviews and excluded books and magazines.

Several countries frequently encounter various issues in border areas, such as international cooperations, governments, international organizations, and arising conflicts. These articles divided border areas into three big categories, frequently discussed among countries in the study of International Relations. The reason is because many scholars are interested to do research in this topic and are able to collaborate to other study.

GOVERNMENT ISSUES IN BORDER AREAS

In the context of border area cooperation, it is necessary to have a transnational regional network connecting between state institutions. Border areas in Europe implement the EU policies to support and to connect the roles of actors at the multi-level government (Perkmann, 2003). The roles of private and public actors in the development of border areas is to develop cooperation between governments with a series of flexible networks, not necessarily in accordance with the border areas of respective countries. However, local governments can be involved to determine the economic position of border areas by using social network analysis and qualitative assessment to the interests of the actors (Sohn, 2014).

The dynamics of intra-local and inter-local organizations shall strongly affect the progress of cooperation in border areas such as the countries in Europe and America increasingly focus collaborations on actors at the sub-state level.
The actors of the local governments or sub-state actors can change the functions and policies of the government controlled by state actors with describe the international activities of state institutions below the national level and for foreign investment services. Based on article Nadalutti (2017), the progress of cooperation in border areas involving local governments can be observed from ethical values which supporting the collaboration success (Nadalutti, 2017). It meant that communities and individuals become part of international activities, where they can interact each other to develop integral abilities and involved in cooperation in border areas.

SECURITY ISSUES IN BORDER AREAS

Several decades ago, the issues of security in border areas were never resolved to the highest court. Responses to the issues of security were poor. Humanitarian crisis and conflicts which lead to war are often inevitable, although most of it occurred domestically and militarily until 2014 (Agbiboa, 2017). The international issues of security in border areas are influenced by political friction and the
struggle over territorial boundaries. Interrogating the idea of border area and security in Kashmir has involved the role of non-state actors, non-central government, and other actors integrated in the evolution of border areas (Mahapatra, 2017). In a sociological perspective, security policy in border areas shall depend on the supervision over the issues of refugees, migrants, and citizens. It frequently arises due to the suppression of their rights, as shown by the implementation of the current border regime (Topak, Bracken-Roche, Saulnier, & Lyon, 2015). Safeguards in border areas become a joint provision between bordering countries to maintain the stability and commitment of nation-state, thus nation-state is strong in resolving conflicts in border areas.

TERRITORY ISSUES IN BORDER AREAS
Territorial aspects are closely related to the state policies in monitoring activities of the citizens in border areas and bounded by national border regulations, affecting international activities (Koch, 2018). The strategy and challenge to integrate border areas is the debate of stakeholders, providing the evidence for the decision-making processes carried out in European countries. Cooperation in border areas requires interaction between countries by reflecting political and socio-cultural changes with political and economic motives and requires social entrepreneurship to ensure sustainable cooperation. On the one hand, border areas are physically demolished in the most internal areas of the European Union. On the other hand, they have become fertile ground for territorial cooperation and institutional innovation (Konrad, 2012).

The achieved level of cross-border collaboration and organization varies from one region to another, depending on the combination of different facilitation for an effective and more specific cross-border collaboration, economy, political leadership, culture/identity, geographical factor and state formation (Sousa, 2013). The selection of systematic mapping study method aims to map the focus of the studies of border areas that frequently discuss important and debatable issues of contemporary international relations. In addition, SMS is important for students and faculty members to understand their areas of expertise for further studies. The main motivation of the systematic mapping study is to provide a mapping of the existing literature on the impact of development in border areas around the world, aiming to determine the level of frequency arising issues in the studies of International Relations and conflict resolution in the areas. Border areas are highly essential. Therefore, each country can adopt or observe the resolution by other countries with similar

![Figure 7. Visualization of a systematic map in the form of a bubble plot](source: the data is processed by authors)
issues. It is essential to determine the highest level of issues in border areas in the world and to provide guidelines for countries to collaborate with other countries experiencing conflict or declining in development.

The authors carried out SMS (Kitchenham, 2007; Petersen et al., 2008) to determine the focus of what has been learned in this field of study. The existing 53 journals were classified based on the method, type, and trend of the study from the country of origin and publication. SMS is a practical method to identify the right topics to be studied and the fields required for further studies. The findings of this study provide guidelines to assist researchers in planning future studies through research gaps. We use systematic mapping study (SMS), through evaluation research and validation research, and different to another method because it can help practitioners find references and literature, particularly studies of International Relations and border areas around the world.

Figure 7 summarizes the mapping generated from the searches string on the frequently debated issues in border area studies. It also explains the availabilities of studies to be reviewed or to be developed according to the preference of researchers. For example, the studies of territorial aspects using quantitative method are still limited. It is an opportunity to study by providing new breakthroughs and contributions in the study of International Relations.

This article attempts to map 53 articles related to border area published electronically in both scientific journals and conference proceedings. The purpose of the mapping by SMS is to find out what border area topics have been studied. This is useful and allows further research to explore new topics or exploit existing topics so that future studies on International Relations can generalize the topics that have often been studied.

International Relations studies have several main topics that are very interesting to examine, and one of them is about border area. This SMS is very relevant, especially for International Relations study academics to get clear guidance and focus on the border area topic so that it can produce and develop some of the latest themes in making research with the support of the latest reference articles. In addition, the implications and final objectives of the SMS are very important for an academic to focus on developing his own expertise based on the mapping of the border area topic which is very useful and to increase knowledge in the progress of International Relations studies that has never been done before.

CONCLUSION

The main motivation of mapped study is to provide an overview of existing literature on the impact of border area development in International Relations study which very relevant to future research. The objective is to determine the level of trends of discussion about border area in many countries. Besides, to explore previous studies in the field of border areas in International Relations study, this article use Systematic Mapping Studies (SMS) by providing map of topics related to border area. The results of this study are academically expected to be able to stimulate and to guide future International Relations researchers to conduct further studies in the field of border areas. Of the 53 research journals that have been systematically cataloged, we classify existing research based on research methods, research types, and trends of countries of origin and publications.

The research method adopted (SMS) is a practical research method for identifying the appropriate topics to be researched, as well as which areas are needed for more research. The results of this study provide guidance to assist researchers in planning future research through the discovery of research gaps. SMS method has implications for practitioners through the type of evaluation and validation research so that practitioners can find references and literatures for the impact of the border area in International Relations. Furthermore, this SMS study will be a preliminary study on the impact of the border area in International Relations study in many countries.

REFERENCES


