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Exploring the feasibility of content analysis in understanding international cooperation in APEC

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Exploring the Feasibility of Content Analysis in Understanding International Cooperation in APEC

Francis Mark A. Quimba and Mark Anthony A. Barral



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Exploring the Feasibility of Content Analysis
in Understanding International Cooperation in APEC

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Abstract

International relations is considered an important aspect in the development of an economy and of a region by providing them opportunities to work together to address economic, social, political issues, environmental, and security issues. It allows economies to share information, technology, and best practices that can help them progress together. Such cooperation is realized through the participation and commitments in regional blocs, such as the Asia Pacific Economic Cooperation (APEC), where cooperation comes in many forms. Exploring the patterns of such cooperation provides an understanding of how APEC has evolved. It may highlight the achievements and learn from shortcomings. Also, exploring patterns of such cooperation provides direction APEC may take in the next decades. The quality of cooperation may also reveal how member economies have fared so far in their participation, as well as their economic or political stance on certain issues. To do such analysis, however, it must be noted that there are pieces of information that cannot be easily discerned by quantitatively analyzing available structured data. Analyzing cooperation may require a different type of methodology. This paper, therefore, explores the concepts and potential uses of content analysis in understanding international cooperation.

Keywords: content analysis, text analysis, international cooperation

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Exploring the feasibility of content analysis in understanding international cooperation in APEC

Francis Mark A. Quimba and Mark Anthony A. Barral¹

1. Introduction

In the conduct of its meetings, the Asia Pacific Economic Cooperation has massively produced information and data. Every transaction and interaction globally produce documents, reports, publications and others. Over the years, these sources of information have accumulated and have been stored in databases.

Contained in a number of APEC databases are publications, statements and declarations, project reports, press releases, and meeting documents, among others, which are potential sources of patterns of information not directly observable but can be of great importance in understanding more comprehensively the dynamics of APEC. By organizing in a more structured way the vast information that can be extracted from these materials, one may be able to identify new themes and reveal important issues. These can then be used to explain or evaluate certain observations among economies in APEC, such as perceptions on economic cooperation or understanding an economy's political climate. Identifying hidden patterns and drawing conclusions by utilizing and examining such materials is a method referred to as content analysis.

Content analysis can help in learning about an economy, by using readily available materials, such as speeches, interviews, newspapers, films and other forms of communication, as these contain information or elements about the economy that are not easily quantifiable. Similarly, these materials also contain information about the perspectives of the other economies for which these materials are intended. Other pieces of information like the time frame, cultural factors and political environment may also be revealed through an analysis of the documents (Hermann 2008).

This study presents the tools that can be used in the conduct of content analysis of documents gathered from participating in APEC meetings and from the APEC databases available online. This is part of the ongoing project of strengthening the Philippines' knowledge management of documents related to international relations through the APEC policy tools. It describes the methodologies and how these can be used to answer certain questions. It also provides an overview of the massive sources of information available in APEC databases.

The rest of the paper is organized as follows: Chapter 2 presents background information on content analysis followed by a discussion on the software that can be used for content analysis (Chapter 3). Chapter 4 discusses the data sources that can be used for the conduct of content analysis of APEC related documents. Chapter 5 presents other studies using content analysis related to regional integration. Finally, Chapter 6 concludes on the use of content analysis for the Philippines.

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2. Background on Content Analysis

2.1. Types of Content Analysis

Content analysis is a technique used in social sciences for the systematic study of the contents of communication (Escobar and Berrocal 2015). The attitudes, views, and interests of individuals or groups may be revealed by using content analysis on materials and sources of information that these groups have produced (Drisko and Maschi 2016). Furthermore, content analysis is defined by Krippendorff (2013) as “a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use.” These inferences address both the message, the sender, the receiver, or the impact of the message (Weber 1984, in Drisko and Maschi 2016). Or simply, the systematic and quantitative studying of texts (Krippendorff 1980).²

Content analysis is not a new technique. In fact, it has been utilized since the 1950s (Berelson 1952; Osgood 1959). However, the advent of digital technology has allowed a more comprehensive and systematic way of conducting content analysis. Databases have digitized and stored volumes of documents that would require large storage spaces and tedious effort to peruse.

There are three main types or approaches of content analysis - basic content analysis, interpretive content analysis, and qualitative content analysis. These three approaches may be differentiated further in terms of other aspects, such as research purposes, research designs, data sampling, coding, and analytic techniques (Table 1).

Basic content analysis focuses on manifest content or the literal meaning of the message and uses statistical methods. The technique uses word counts or other quantitative analytic techniques to objectively, systematically and quantitatively describe manifest content of communication materials. (Neuendorf 2002; Berelson 1952, in Drisko and Maschi 2016). Both definitions would disallow interpretive and qualitative approaches that do not employ quantitative methods and focus on manifest content (Drisko and Maschi 2016).

Table 1. Comparing Approaches to Content Analysis

Type	Proponents	Research Design	Data Sampling	Coding	Analytic Techniques	Advantages/Limitations
Basic Content Analysis	Weber (1990) Baxter (1991) Neuendorf (2002)	Exploratory or Descriptive; Explanatory tests of hypothesis; Explanatory tests of discriminant function	Multistage (selecting set of texts or files, then identifying subunits of interests within the selected texts or files); Purposive (theoretical) or probabilistic sampling	Deductive (a priori) or inductive, or mix	Parametric statistics (t-test, ANOVA, regression) and non-parametric statistics (chi-square, Mann-Whitney U); frequencies and correlations (word list, word frequencies, concordance, keywords-in-	Generally, very literal and addresses manifest content; most often analyzed using statistical methods; extends the core methods of basic content analysis to include interpretive coding and analytic processes; can be used in exploratory, correlative, and explanatory research designs; can provide useful evidence for

² Content analysis can be both qualitative and quantitative.

					context, keywords-out-of-context)	scholarship and advocacy
Interpretive Content Analysis	Berelson (1952) Eco (1976) Osgood (1959) Holsti (1968, 1969) Bulmer (1979) Baxter (1991) Krippendorff (1980, 2013) Fiske (1982) Bloom (1980) Ahuvia (2001) Reichertz (2014)	Exploratory or Descriptive or both (predominantly descriptive)	Single-stage process (identifying specific set of texts or participants, then identify a subset of the initial sampling frame); Random (probability) or purposive sampling	Starts with inductive coding of raw data; largely descriptive coding; also, connotative coding, which is based on the overall or symbolic meaning of phrases or passages	Coding is the first step in the analysis, while formal data summaries complete the process (descriptive narratives, or themes, summarizing the collected and coded data)	Expands on basic content analysis to allow exploration of latent meaning and the context of communication; mostly are “real tales”, which means researchers do not engage in much formal self-reflection or reflexivity as this approach emphasize objective “facts”; requires considerable additional work to develop clear epistemology
Qualitative Content Analysis	Harris (1952, 1985) Glaser and Straus (1967) Habermas (1968) Boyatzis (1988) Berg (2001, 2008) Gee (2005) Braun and Clarke (2006) Mayring (2000, 2007, 2010) Saldaña (2009) Schreier (2012)	Descriptive in focus, also exploratory and explanatory	Purposive sampling; Iterative qualitative sampling; Mostly, non-probability or purposive	First step is “immersion: or familiarization of the data set; Inductive or deductive coding	Similar to interpretive content analysis, coding encompasses a significant part of the analysis (main analysis is complete when coding of categories is finalized); involves summarizing key content in the data by reorganizing or reordering of the coded categories; summary can be done in several ways: narrative format or matrix format (comparison tables, flow charts and conceptual diagrams)	Recent approach and still developing; flexible, can be framed deductively or inductively, or both; sometimes poses contradicting views on the research methods and techniques; appears to be very similar to other qualitative research models; researchers need to more clearly identify the unique aspects of this approach; more descriptive and less likely to include critical interrogation of the data;

Source: Based on Drisko and Maschi (2016)

Interpretive and qualitative content analyses focus on both manifest and latent content and draw on narrative analysis rather than statistical approaches. Osgood (1959) defined the interpretive approach as a procedure to make inferences about sources and receivers from evidence in messages being exchanged. Holsti (1969), on the other hand, defined interpretive content analysis as “any technique for making inferences by objectively and systematically identifying specific characteristics of messages” (Drisko and Maschi 2016). Interpretive content analyses use generated summaries and interpretations rather than word counts or quantitative analytic methods, to draw upon newly generated texts, and may also examine existing data sets. It may be systematic and transparent but are not necessarily objective (Ahuvia 2001, and Drisko and Maschi 2016).

Qualitative content analysis, on the other hand, is defined as “an approach of empirical, methodological controlled analysis of texts within the context of communication, following content analytical rules and step by step models, without rash quantification” (Mayring 2000). It is based on the interpretation of texts, focusing on the research questions, to develop categories (induction) and apply these categories (deduction) to additional data (Mayring 2000, Schreier 2012, and Drisko and Maschi 2016).

2.2. Basic Components of Content Analysis

In doing a content analysis project, it is important to carefully plan each stage of the entire process and how the analysis should progress to achieve the desired results in addressing the research questions. Riffe, Lacy, and Fico (2014) suggest a linear process of conducting a content analysis project, and categorized the steps in three main components – conceptualization, design, and analysis (Table 2). Content analysis, however, is a recursive or iterative process, and may be unique based on the objects of conducting the research and other factors.

Table 2. Steps in Analyzing Contents

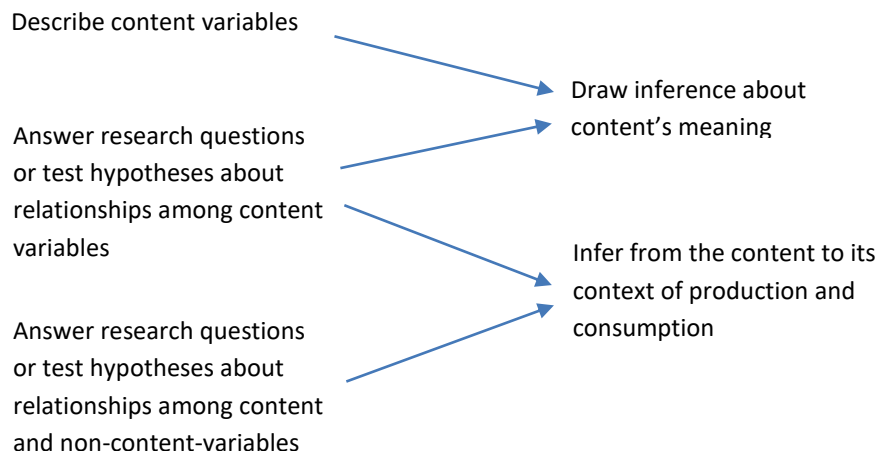
<i>Conceptualization and purpose</i>	
	Identify the problem
	Review theory and research
	Pose specific research questions and hypotheses
<i>Design</i>	
	Define relevant content
	Specify formal design
	Create dummy tables
	Operationalize (coding protocol and sheets)
	Specify population and sampling plans
	Pretest and establish reliability procedures
<i>Analysis</i>	
	Process data (establish reliability and code content)
	Apply statistical procedures
	Interpret and report results

Source: Riffe, Lacy, and Fico (2014)

1.2.1. Research Purpose

Content analysis involves determining a research design that links conceptualization and data analysis. It includes determining what questions the research aims to answer, the purpose of determining and testing relationships between variables, describing characteristics, among others (Riffe, Lacy, and Fico 2014) (Figure 1).

Figure 1. Purposes of Content Analysis that Guide Research Design



Source: Riffe, Lacy, and Fico (2014)

Using media products (e.g. articles, documentaries, television shows), Pattyn et al. (2017) illustrate the use of qualitative comparative analysis, here considered a form of content analysis, as a tool to evaluate development cooperation, and enumerate a number of challenges, including certain decisions that must be made. For instance, the decision to evaluate can be constrained in terms of determining the purpose of evaluation and determining the locus of the evaluation (i.e. whether the exercise will be done in-house or with the help of external evaluators). Like any other evaluation, content analysis as an evaluation tool can help determine the status of a program, whether it may be continued, expanded, reduced, or terminated, and to determine the reasons the program works or does not work. In another aspect, determining the purpose of evaluation or how it will be accomplished rely on the expertise and knowledge of the proponents on the method and technical aspects, such as proficiency in using appropriate software for analysis (Pattyn et al. 2017).

Content analysis helps researchers address large amounts of data from languages, contents, and events. Basic content analysis is used to identify and describe themes of communication, including techniques used to deliver the message or contents within these data (Weber 1990, in Drisko and Maschi 2016). It can be used to detail the proportion or percentage of a text or set of materials devoted to certain topics, and allows for evaluative comparisons of materials and display and analyzed trends (Drisko and Maschi 2016).

Basic content analysis can also be considered when using study findings as an evidence for making abductive arguments (Krippendorff 2013). Abductive argument links an observation with a hypothesis to explain that observation (Reichertz 2010). In abductive reasoning, the premise does not validate the conclusion but provides inference to an explanation based on the empirical results, not necessarily inherently derived from the empirical results. For example, the percentage

of content that addresses a certain topic does not automatically mean this percentage to be too small or too large (Drisko and Maschi 2016).

Basic content analysis can also be used to describe people or groups of people based on verbal behavior and to test theories about, e.g., psychiatric diagnosis by the frequency of words used in personal narratives of the people (Drisko and Maschi 2016).

There is no profound delineation to differentiate basic content analysis and interpretive analysis, other than the basic content analysis to be leaning more toward the literal meaning and paying little attention to the context of communication. Krippendorff (2013), however, defines interpretive content analysis as a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use,” and goes beyond the description of “what” and “how” but infers about “why”, “for whom”, and “to what effect” (Krippendorff 2013, in Drisko and Maschi 2016. “Interpretive content analysis is specially designed for latent content analysis, in which researchers go beyond quantifying the most straightforward denotative elements in a text” (Ahuvia 2001) and requires a different set of methods from those used in basic content analysis (Baxter 1991). Interpretive content analysis, however, must remain grounded in empirical data (Krippendorff 2013, in Drisko and Maschi 2016). With such, interpretive content analysis may be used to describe content and meanings, summarize large data sets, make judgements or inferences about intentions, thoughts, and feelings, or assess people’s reactions towards policies or services, among others (Ginger 2006, and Drisko and Maschi 2016).

Qualitative content analysis, on the other hand, is considered to be an optimal method to describe the meaning of communications and frequently categorize the manifest and/or latent and contextualized content into a narrative summary. Categorization may be topical, formal or hierarchical, and involves some degree of abstraction (Drisko and Maschi 2016).

2.2.2. Research Designs in Content Analysis

Another important aspect to consider in conducting a content analysis is establishing the research or decision design. Pattyn et al. (2017) refer to this as the process of structuring or planning the evaluation (in case of using content analysis as an evaluation tool), which include formulating the evaluation questions, selecting cases (i.e. treatment vs control, degrees of variation) and conditions (i.e. logical combinations, logic modeling).

Krippendorff (2013) identified three kinds of research designs. Exploratory/descriptive design describes or clearly defines the knowledge of content and contexts; explanatory tests of hypotheses examine the merit and utility of analytical constructs; and explanatory tests of discriminant function affirms or negates the explanatory power and utility of analytical constructs.

Basic content analysis can utilize all three research designs; however, descriptive uses predominate. Most interpretive content analyses are descriptive in design and are used to describe and summarize the views found in texts or narrative statements. Qualitative content analysis is considered to belong to both the exploratory/descriptive and explanatory tests of hypotheses. Exploratory research designs often require small samples purposely chose to discover or gain access to new knowledge or information, or when there is little known about the topic (Drisko and Maschi 2016).

Basic content analyses often use an observational research design. This does not make intervention to influence the behavior of participants (Rosenbaum 2010). This means, data collection is done using direct observation in contrast to experimental design, in which an intervention is applied and its effects are tested. The research purpose of observational designs is to discover, explore, and describe behaviors. In cases where the sources of data are texts, audio, video or other materials, there is no way to influence participant behavior apart from the sample selection and coding of the data source (Drisko and Maschi 2016).

Another research designs that can be employed in basic content analysis are the cross-sectional and longitudinal research designs. In cross-sectional design, the characteristics of a sample are explored and defined over a short period of time (Mann 2003). Longitudinal, on the other hand, explores a variation in a sample over time (Drisko and Maschi 2016).

Qualitative content analysis is generally considered descriptive in focus and design but is also used as an exploratory design to identify new ways of looking at events and communications (Drisko and Maschi 2016).

2.2.3. Data Sampling

In content analysis, sampling is the process of selecting a subcategory of cases or events from a larger population under study (Neuendorf 2015). A *population* can be all articles written by an author and a *sample* can be a smaller subset of all the articles. The full population of documents is an index or concordance of a set of documents called a *census*. Population-based studies tend to be expensive and the membership of the population may change over time when new articles or documents are produced. In order that sampling may be easier, *sampling frame* may be done. Sampling frame is a technique to objectively select a targeted member of the population using a set of criteria to reduce the number of representatives (Drisko and Maschi 2016). Put simply, sampling frame is the process of itemizing all cases in the population. Sampling frame, however, does not exist in all population, which may require redefining the populations (Neuendorf 2017).

Depending on the purpose, requirement, or availability of resources, the sampling procedure may fall on either probability or nonprobability sampling techniques (Neuendorf 2017).

Probability sampling requires that each element, or “case” (text or theory), has an equal chance of being selected, which allows to make inference and generalizations about the population (Neuendorf 2017, and Drisko and Maschi 2016). It may be *simple random sampling* or *systematic sampling*. Simple random sampling can be done either “out of a hat” – the literal arbitrary drawing of unnumbered samples or cases from a box, or using a table of random numbers or number generator to draw cases if the sampling frame is numbered. Also, whether through “out of a hat” or numbered-list technique, simple random sampling can be done *with replacement* or *without replacement*. On the other hand, systematic sampling is selecting every *x*th case from the list in the sampling frame or in some periodicity in the frame. Some variations to probability sampling include cluster sampling, stratified sampling, and multistage sampling (Neuendorf 2017).

In situations where any of the probability sampling techniques is not feasible, nonprobability sampling can be done. This, however, is usually not recommended as it cannot be used to generalize the findings to a population. Nonprobability sampling techniques can be either *convenience sampling*, *purposive* or *judgement sampling*, or *quota sampling*. Convenience sampling relies on the availability of cases and is done when an ideal sampling frame is difficult to achieve. Purposive sampling is based on the researcher’s judgment and decision on which case

to include or exclude in the sample. Lastly, quota sampling is a nonprobability version of the stratified probability sampling technique. Key variables are categorized and a certain number of cases from each category are identified and included in the sampling frame (Neuendorf 2017).

2.2.4. Data Unitization

While researchers rely on existing data, these data can be defined further into smaller units in a process referred to as unitization, which links the sampling process into the coding process. These *sampling units* are sections of a larger source of content and are defined to make the content more manageable for coding and analysis. For example, a syllabus can be divided into different subsections such as course description, course objectives, and required readings. Other sources may also be divided into pages, paragraphs or numbered sections (Weber 1990 and Drisko and Maschi 2016).

Smaller units, the *recording units* or the “passages” of text or “quotations”, conveys the specific meaning or the focus of the content. For example, in a course syllabus, a sampling unit is the course objectives section, which may contain a sentence that states how a certain issue may be addressed. That sentence can be considered as the recording unit. The recording unit may be a phrase within a sentence or a single word that describes the sampling unit. After identifying the recording unit, this is labeled with a code name. Code name helps identify the content in the recording unit, describes the prevalence of the content in the source material, or determine its relative importance among other contents (Weber 1990 and Drisko and Maschi 2016).

2.2.5. Coding

Coding in qualitative content analysis starts with identifying the main categories (*themes* or *dimensions*), mostly nominal-level categories that are mutually exclusive and exhaustive of the topic subject. Subcategories are then identified to elaborate the details of the content within each of the main categories. Subcategories may be nominal, ordinal or interval measures (Mayring 2010, Schreier 2012 and 2014, in Drisko and Maschi 2016).

Coding in basic content analysis can be deductive--a priori coding, inductive, or a combination of both techniques. In deductive coding, a priori codes are developed or generated based on previous works or theories. For example, codes may be applied to activities that may pose risk to a certain disease. In inductive coding, codes are generated when there exists no well-established or limited codes or theory that can be used as the basis for coding. The resulting list of codes is called “dictionary” (Drisko and Maschi 2016).

In interpretive content analysis, understanding the context is very important when coding as interpretive content analysis focuses on both the manifest and latent meaning of communication. Thus, it considers how people make, convey, or receive the message of communication. For this reason, inductive coding or “emergent” coding is often used, although inductive and deductive coding may both be used and combined. *Connotative codes* or categories are also allowed in interpretive content analysis. These codes are generated based on the symbolic meaning of passages, in accordance to how the researcher understands the details of the context (Drisko and Maschi 2016).

Coding is a defining feature of qualitative content analysis, and coding in qualitative content analysis is considered to be solely descriptive in contrast to other qualitative coding techniques;

thus, it is not intended to make conceptual analysis of the content, although it always involves some conceptualization (Schreier 2012, in Drisko and Maschi 2016). Coding is fundamental in qualitative research. It helps in addressing what the material is all about and provides the researcher an idea how to address the research questions. It helps in determining patterns, contradictions, or in developing theories. It also facilitates queries and visualizations to determine thematic relationships. It is a cumulative process of gathering material by topic. This means the meaning and structure of the nodes may change over time. Coding may be *topic coding* (determines the topic discussed), *analytical coding* (identifies the purpose, context, quality, or use of the content in addressing the research questions), or *case coding* (attribution or describing the speaker, or the place or organization, among others, being observed). Coding can be used in conjunction with annotating, memoing, visualization and mapping, and linking items in a project (QSR International 2020).

2.2.6. Data Analysis

Data analysis in basic content analysis is done using various analytical tools. A *word list*, a list where all the words found in the documents, is generated manually or with the aid of computer programs. The frequency of these words is then described in the *word frequencies*. The use of these words and the context in which these are used are then indexed in a concordance. The words embedded in the context represent keywords that can be used to generate a list of contexts, which can be phrases or passages, and are referred to as the *keywords in context*. Words that are found in unexpected contexts, referred to as *keywords out of context*, may be helpful in detailing exceptional use of words.

Basic content analysis may also be organized by formal *hypotheses*, which are usually based on deductions from prior theory. The use of formal hypothesis, however, is not required for descriptive statistical analysis. Instead, tools that can be explored for descriptive statistical analysis include the use of *levels of measurement* (hierarchical), *frequencies* (count) and correlation. In other cases, inferential statistics may also be used in basic content analysis to test hypothesized group differences and/or hypothesized associations among variables (Drisko and Maschi 2016).

3. Software for the Conduct of Content Analysis

There are various tools and programs and libraries available that can be used in conducting a content analysis. This section discusses some of the commonly used programs, particularly the NVivo and Stata as these are readily available at PIDS.

3.1. Content Analysis in NVivo

The workflow in using NVivo is not distinct to the procedures in other CAQGDAS programs, which generally involves data importation and preparation, coding, and visualization and presentation of the findings. Understandably, the prerequisite is to know and understand how the software works (Kaefer, Roper and Sinha 2015).

Working in NVivo involves importing the files into the software and organizing them into folders, examining the files, coding, querying, reviewing the queries results, visualizing the findings, and writing the final report.

- In data preparation, content materials are identified using selection criteria, such as specific search terms, publication type, or date of publication. Search results or articles are saved and are then carefully examined to include only those that pass the selection criteria. The articles are then spilt into separate files. A splitting-software can be used especially for large datasets (Kaefer, Roper and Sinha 2015). The selected articles are then imported into the software and are organized into folders (QSR International 2020 and Kaefer, Roper and Sinha 2015). Sets can be used to gather files (or codes) from different folders (QSR International 2020). These are then organized or assigned into a source or case classification sheet, which is a table containing specific attributes (columns) and values (rows) that describe each article. The actual analysis begins once the attribute values are assigned to the news articles in the source classification sheet (Kaefer, Roper and Sinha 2015).
- The next step is to assign segments of texts or contents to the case or node, or *coding*.³ Coding is facilitated using the software by automatically recording the codes into the software's coding system. Similar to folders in the Windows operating system, nodes are storage that contains information about the theme, place, person or other variables. Nodes can be structured hierarchically to present the main or parent node and sub-nodes or child nodes (Bazeley 2007, Bryman 2008, and Kaefer, Roper and Sinha 2015). Multilevel coding in NVivo starts by reducing the articles into relevant parts that will address the research questions (Kaefer, Roper and Sinha 2015).
- The next step to coding is querying. The "query" function of NVivo is used to find patterns and to check ideas. This also allows users to save searches, re-run them on different data, store, print, or export the results. For example, text search queries are used to find specific words or phrases on all or selected articles; word frequency queries generate the list of words most frequently used in a particular source or node (Kaefer, Roper and Sinha 2015). Queries help to explore the data, basically by finding and analyzing words or phrases in the files and nodes, asking questions and determining patterns based on the coding. Query tools include text search and word frequency, as well as coding (finding contents coded at selected nodes or combination of nodes and/or attribute), matrix coding (coding intersections or cooccurrences of themes), crosstab (distribution of codes across cases or differentiating cases in the project), compound (combining a text search query with a coding query, or searching for two words that occur in the same paragraph or other context), coding comparison (comparing coding between two users or two groups of users to measure inter-rater reliability or the degree of agreement for coding), and group (finding associated items based on coding, attribute, or relationship) (QSR International 2020).
- The final stage is to prepare for final write-up, which includes memoing. Memos are documents used to record ideas and insights about the material being analyzed, capture issues, describe the significance of the nodes, patterns, or emerging ideas. They are separate but are linked to the material and can be an import part of the write-up. Annotation is a related concept, which is a record of comments, reminders, or observations about specific content in a file or node (QSR International 2020).

³ The terms code and node can be used interchangeably. Similarly, cases can be used to refer to a particular unit of analysis and can be used instead of nodes (QSR International 2020).

3.2. Content Analysis in Stata

Text mining or the quantitative analysis of unstructured text data and content is increasingly becoming a popular means of identifying patterns and relationships contained in datasets, such as survey responses and speeches. Such applications usually require sophisticated programs or commands to be able to categorize or classify different forms of content. Stata contains some built-in commands that can be used in some stages of data preparation. New commands are also being introduced by Stata users for text management. Stata, however, do not have text-management utilities to prepare data for such applications (Williams and Williams 2014). Stata does not have a tool for social network analysis, a related concept in content analysis (Escobar et al. 2019, Escobar and Berrocal 2015, and Escobar 2014).

There are programs, however, that can be used together with Stata. Escobar and Berrocal (2015) note some programs that can be used for content analysis – qualitative analyzers (NVivo, Atlas-ti, and QDA miner), and statistical analyzers (WordStat, TextAnalyst, and LWIC). They also highlighted that some advanced users created commands or programs for network analysis. Corten (2010) wrote the *netplot* to visualize social networks. Mihura (2012) created routines (SGL), including Stata commands *netsis* and *netsummarize*, to measure the centrality of networks. White presented *network*, a suite of Stata programs that can be used for meta-analysis, during the 2013 UK Stata Users Group Meeting. Similarly, Cerrulli and Zinilii presented *datanet*, which prepares datasets for analysis, during the 2014 Italian Stata Users Group Meeting. Grund (2014) created *nwcommands*, a collection of programs for plotting and analyzing social networks (Escobar et al. 2019, Escobar and Berrocal 2015, and Escobar 2014).

Some tools and programs developed to implement text management and content analysis in Stata are the following:

2.2.1 Stata User-Written Commands

- a. *txttool* provides a set of tools or utilities to manage and prepare text. It integrates several built-in Stata functions with new text capabilities. Tasks that can be done using *txttool* include cleaning (i.e. removing punctuation, unnecessary characters or spaces, and converting texts to lowercase), stop-word removal (i.e. removing unnecessary words, such as “the”, “of”, and “and” or other specified words), and substitution to replace large numbers of words to correct misspellings or variations or to inset user-defined categories for words. *txttool* is also designed to implement Porter’s (1980) stemming program that reduces a word to its root word. It contains a utility to create a bag of words by converting a string into a list of unique words contained in that string and a count of each unique word, used to present words in quantitative analysis, such as discriminate analysis, clustering, and in creating dictionaries (Williams and Williams 2014).
- b. *wordfreq* is a simple code that assists researchers in specific content analysis projects. It provides an inclusive list of words by downloading a web page or content, and generating a frequency distribution of words. The tool then utilizes Stata’s scatter graphs to form a sample word cloud, which can be modified to suit the user’s need (Dicle and Dicle 2018).

- c. *wordscores* is used to implement computerized content analysis techniques. It is developed by Laver, Benoit, and Garry (2003) to perform counting of large numbers of texts simultaneously and to perform faster calculations for their study, which “[extracts] policy positions from political texts that treats texts not as discourses to be understood and interpreted but rather as data in the form of words” (Laver, Benoit, and Garry 2003).
- d. *strdist* is a function that calculates created the Levenshtein (edit) distance between two words (Escobar and Berrocal 2015, and Signorell 2020). The Levenshtein distance is simply the minimum number of edits required to transform one word or string into the other. An edit may be an insertion, deletion, or replacement (Lhoussain, Hicham, and Abdellah 2015).
- e. When one needs to join observations from two datasets based on string variables that are not exactly the same, *matchit* can be used. It is a tool for matching strings that allows for a fuzzy similarity between the two different texts (Escobar and Berrocal 2015), or merging two data sets that have no compatible keys (Raffo 2016). *matchit* can also be used in several other cases, such as when there are duplicate entries that are not uniform in a dataset. For example, misspellings in names (e.g. Thomas vs. Tomas), name permutation (e.g. Thomas Edison vs. Edison, Thomas), alternative spellings (e.g. Thomas A. Edison vs. Thomas Alva Edison), and also the wrong use of homonyms (e.g. Thomas Edison Sr. vs. Thomas Edison Jr.). Moreover, it can also be used to perform text similarity scoring and to generate a bag of words chart (Raffo 2016).
- f. *lsemantica* is another command written to analyze the similarity of texts. It implements a latent semantic analysis (LSA), which is a machine learning algorithm to compare or contrast words or texts, in Stata. Semantic similarity as a measure can be used to compare the contents of two documents to identify the documents based on the author, measure the spread of information, and to detect plagiarism. Problems, however, may arise when attempting to identify documents with similar meanings – the same words can have different meanings in different contexts, and different words can have the same meaning in other contexts. Using, therefore, words counts is not a reliable measure of similarity. This is where the latent semantic analysis comes in. Developed by Deerwester et al. (1990), the LSA improves reliability in comparing documents by accounting for the relationships and potential multiple meanings of words. *lsemantica* implements LSA by splitting the documents into smaller parts, such as paragraphs, for each part to be processed separately (Schwarz 2019).
- g. When it comes to topic modeling, some users also resort to machine learning algorithms in order to allow a large collection of unclassified text data (text corpus) to be used for statistical analysis. One such algorithm is called the Latent Dirichlet Allocation (LDA). LDA is considered the most popular machine learning topic model. Topic models automatically cluster text documents into a number of topics designated by the user. LDA represents these documents as probability distributions over topics, and each topic as probability distribution over words. LDA can cluster text corpora regardless of the number or the language used in the documents. *ldagibbs*, developed by Blei et al. (2003) is a command that implements LDA in Stata. *ldagibbs* enables similarity analysis for documents and

topics, and can be used in conjunction to the `strdist` to compare string similarity. `ldagibbs` makes possible the use of previously unusable text data (Schwarz 2018).

2.2.2 WordStat for Stata⁴

WordStat is a program developed by Provalis Research. WordStat combines natural language processing, content analysis, and statistical techniques for extracting topics and valuable text analytics results from a collection of documents, including customer feedback, emails, interview transcripts, social media platforms, and other sources of content materials. WordStat for Stata was developed to allow the application of text analytics techniques particularly in Stata versions 13 and 16. WordStat can quickly extract and analyze information stored in Stata variables. It can be used for business intelligences and competitive web sites analysis, content analysis of news coverage or scientific literature, automatic tagging and classification of documents, as well as fraud detection, authorship attribution, and patent analysis, among others (Provalis Research 2020). WordStat for Stata, in particular, is used for the following:

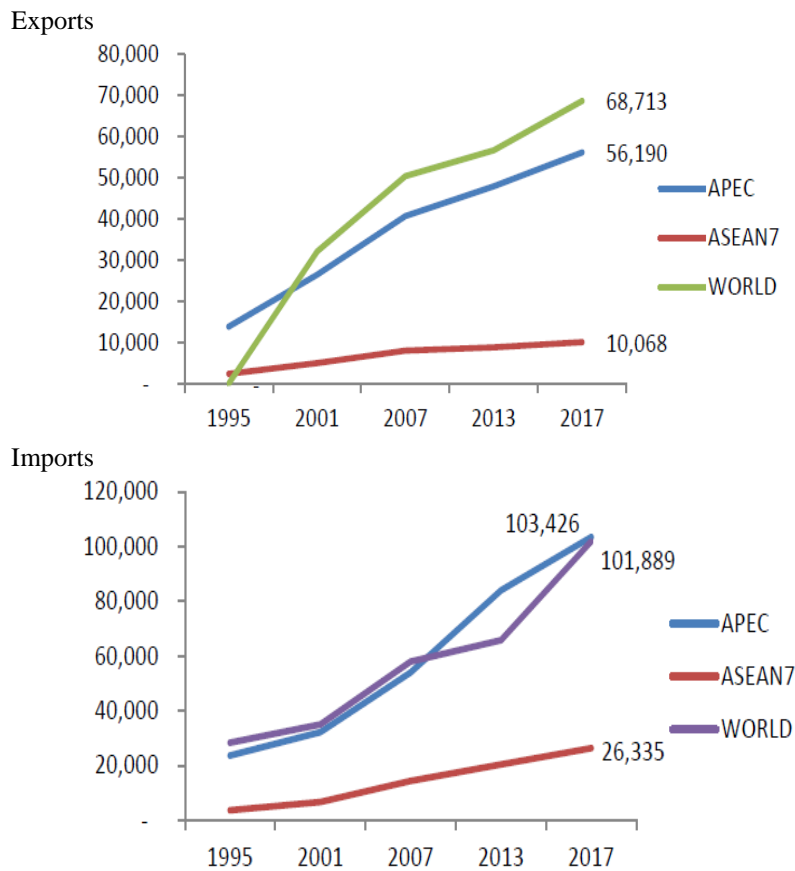
- Exploratory text mining - extracting and visualizing themes and identifying patterns using clustering, multidimensional scaling, proximity plots, and other tools
- Topic modeling - generating a quick overview of most salient topics from large text collections. WordStat also allows to compare frequency distribution of specific topics across other variables using charts
- Categorization dictionaries - creating and customizing dictionaries of words, word patterns, phrases and proximity rules. It can also be used to build taxonomies, and allows named-entity extraction, misspelling replacements, and building integrated thesaurus, among others
- Comparative analysis - exploring relationships between structured and unstructured text data using statistical and graphical tools and techniques, such as correspondence analysis, heatmaps, and bubble charts
- Link analysis - exploring relationships between words or concepts; this is done using force-based graphs, multidimensional scaling or circular graphs
- Machine learning - developing automatic classification models using Naïve Bayes and K-Nearest Neighbors
- Charting - use of visualization tools such as bar and line charts, heat maps, bubble charts, MDS plots, among others, to illustrate patterns and explore phenomena
- Document conversion - allows conversion and importation of document into a new Stata data file or store in various formats

4. Sources of Information for Content Analysis

APEC is an important game changer for economies, particularly for the Philippines, for a number of reasons. For instance, APEC is a major destination of Philippine products and is also an important source of imports. In 2017, exports reached more than USD 56 billion, which is almost equivalent to the exports to the rest of the world. Imports, on the other hand, has been surpassing imports from the rest of the world, reaching more than USD 103 billion in 2017 (Figure 2).

⁴ This section is drawn from the discussion in the website of Provalis Research (2020), the developer of WebStat for Stata.

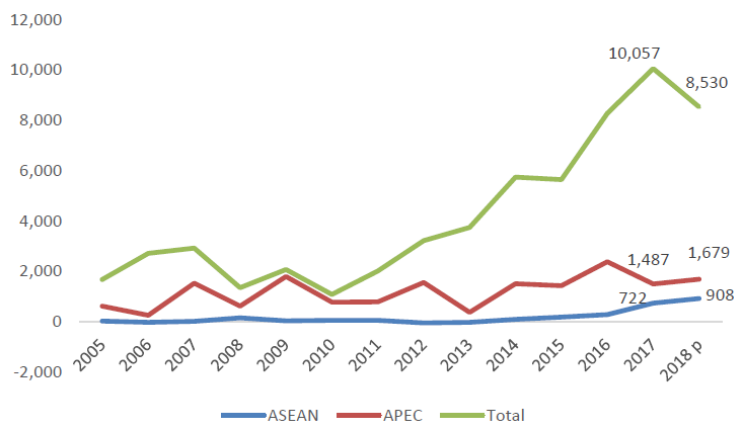
Figure 2. Philippine Trade (in million USD)



Source: Quimba and Barral (2019)

APEC is also an important source of foreign investment in the region (Figure 3). Top investors in the country, as of 2017, include Japan with 30.3 percent of the share, Taiwan (10.2%), Singapore (9.6%), and the United States (8.3%) (Quimba and Barral 2019).

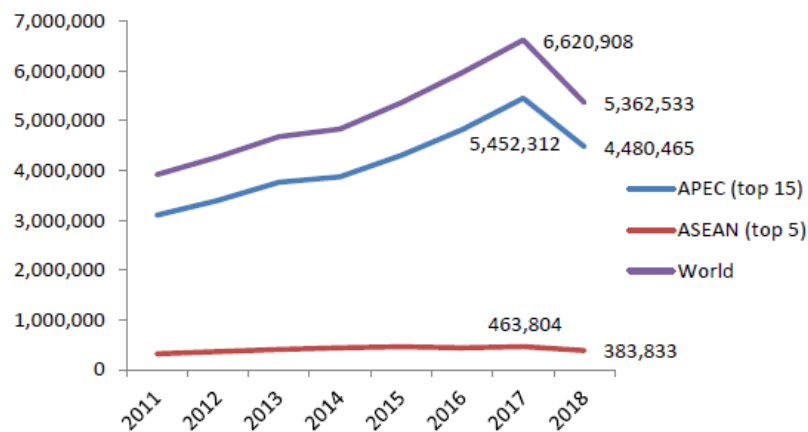
Figure 3. Net FDI Flows to the Philippines (in million USD)



Source: Quimba and Barral (2019)

Additionally, APEC is also a major source of tourists, with more than 5 million arrivals in 2018 (Figure 4). South Korea, China, US, and Japan are among the top sources of tourists in 2018 (Quimba and Barral 2019).

Figure 4. Visitor Arrivals, 2011-2018



For these reasons, it is important to understand deeper the dynamics of APEC, explore potential areas that can be improved further, as well as valuable information to derive lessons from the experiences in APEC. This can be done by exploring the potential uses of content analysis using a number of available documents in APEC databases. Among these are the meeting and project database and project documents database that are accessible from APEC website.

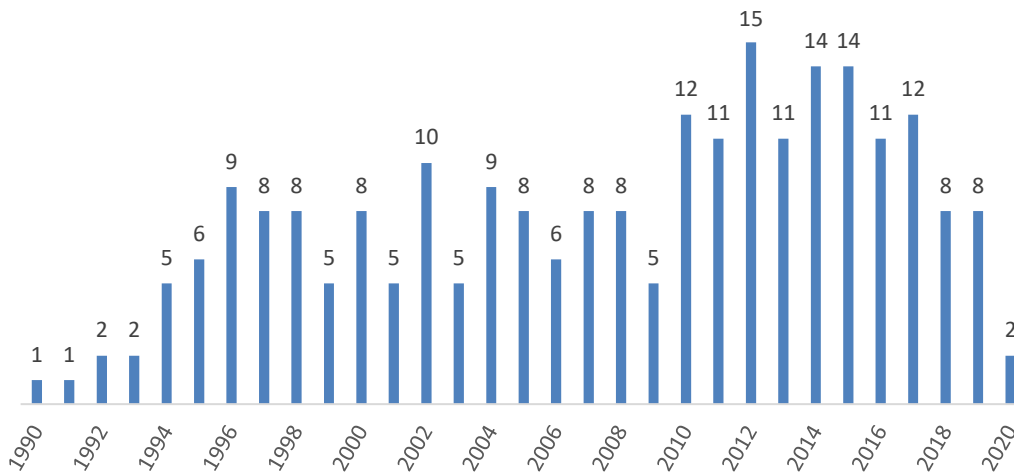
4.1. APEC Meeting Documents

The APEC Meeting Document Database (MDDB) is a facility that contains three main types of documents – the Leaders’ Declarations, Annual Ministerial Statements, and the Sectoral Ministerial Statements – among other numerous documents from different meetings and forums. From 1990 to 2020, roughly 237 documents were produced (Figure 5). A majority (76%) of which are Sectoral Ministerial Statements (Figure 6). Leaders’ Declarations are documents that set the policy agenda for APEC and are produced from the APEC Economic Leaders’ Meetings, which are held annually. Thus, only one statement would be released in a year.

Similarly, Ministerial Statements are documents that contain the strategic recommendations of APEC Ministers resulting from the Annual APEC Ministerial Meetings, consisting of foreign and economic/trade ministers. These recommendations are provided for APEC Economic Leaders’ considerations. Sectoral Ministerial Statements, on the other hands, are output of the Sectoral Ministerial Meetings, which are held regularly covering a number of areas (APEC 2020).⁵

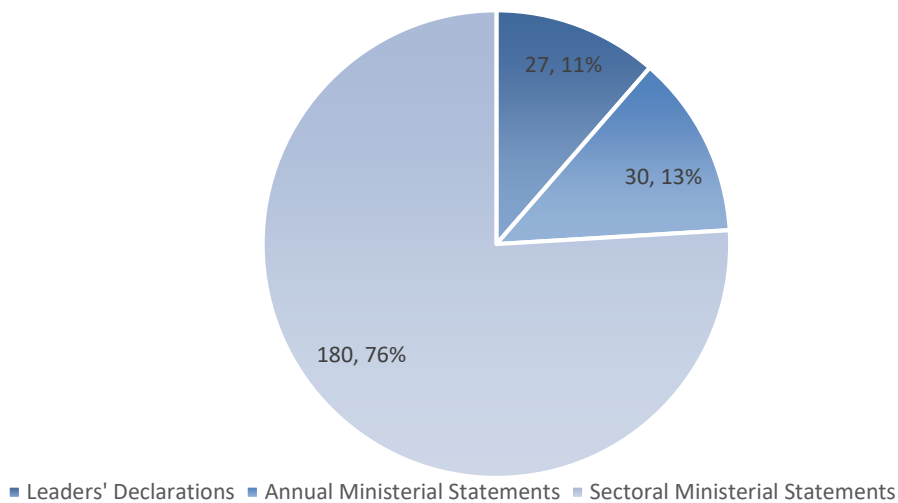
⁵ APEC. 2020. Policy Level. (Accessed through <https://www.apec.org/About-Us/How-APEC-Operates/Policy-Level> on November 28, 2020).

Figure 5. APEC Meeting Documents (1990-2020)



Source: Estimated from APEC Meeting Document Database⁶

Figure 6. Composition of APEC Meeting Documents (1990-2020)

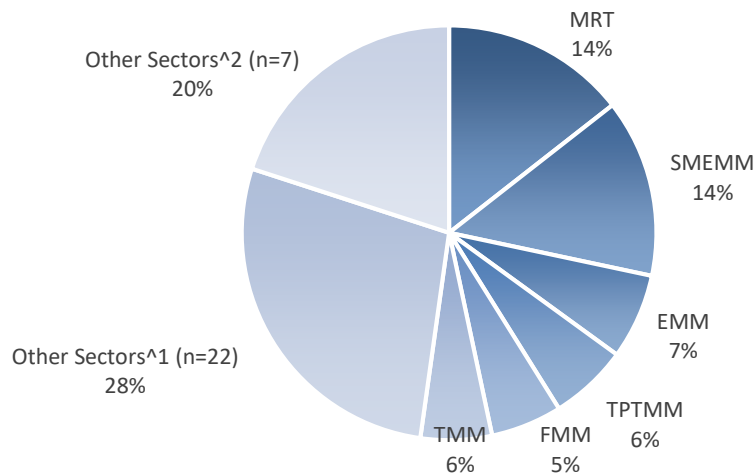


Source: Estimated from APEC Meeting Document Database (as of August 31, 2020)

The Sectoral Ministerial Statements are outputs of various ministerial meetings. Majority of which are from the Trade Ministerial Meetings (MRT) and the Small and Medium Enterprises Ministerial Meetings (SMEMM), each comprising 14 percent of the total (Figure 7).

⁶ Leaders' Declarations as of August 25, 2020; Annual Ministerial Statements as of August 30, 2020; Sectoral Ministerial Statements as of August 30-31, 2020.

Figure 7. Composition of Sectoral Ministerial Statements by Forum (1990-2020)



Note: MRT = Trade Ministerial Meetings; SMEEM = Small and Medium Enterprises Ministerial Meetings; EMM = Energy Ministerial Meetings; TPTMM = Transport Ministerial Meetings; FMM = Finance Ministerial Meetings; TMM = Tourism Ministerial Meetings; Others^1 = 22 sectoral meetings with 5-9 statements; Others^2 = 7 sectoral meetings with less than 5 statements
 Source: Estimated from APEC Meetings Documents (as of August 31, 2020)

A review of the APEC Ministerial and Leaders’ statements for over the past three decades revealed that trade and economic issues are the most consistently mentioned, together with growth, development, investment, and cooperation (Figure 8). It was further revealed that the focus of APEC has changed decade after decade (APEC PSU 2019).

Figure 8. Evolving APEC Landscape



Source: APEC PSU 2019

4.2. APEC Projects database

APEC projects, on the other hand, are other sources of potential contents that can be used in the conduct of content analysis as a methodology. From project years 2016 to 2020 alone, a total of 467 projects were completed in APEC (Figure 9).⁷ Majority of these belong to Energy Working Group (EWG, 15%), Committee on Trade and Investment (CTI, 13%), and Small and Medium Enterprises Working Group (SMEWG, 9%), which are among the main forums of APEC (Figure 10).

Figure 9. Number of Completed Projects (2016-2020)

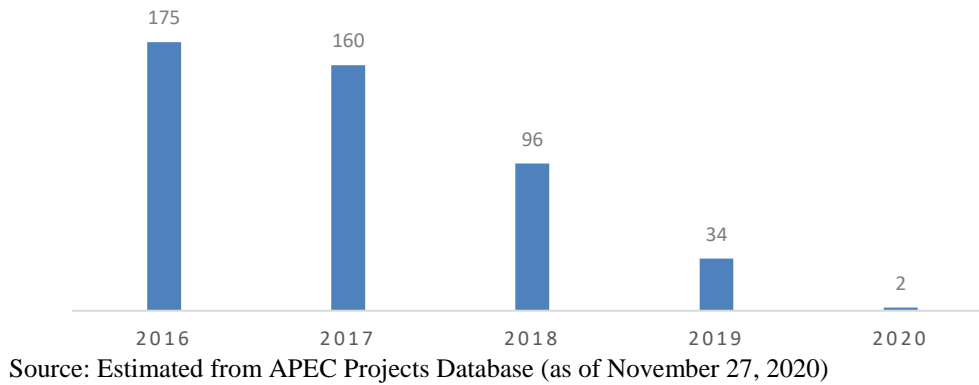
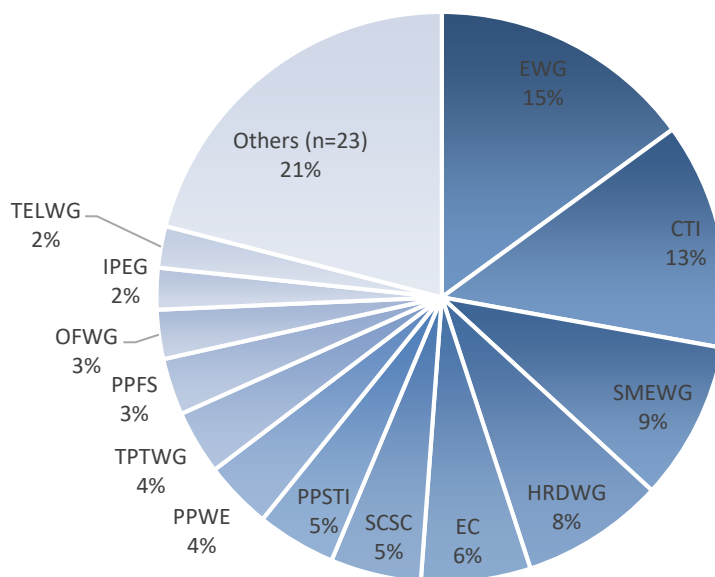


Figure 10. Distribution of Completed Projects by Forum (2016-2020)



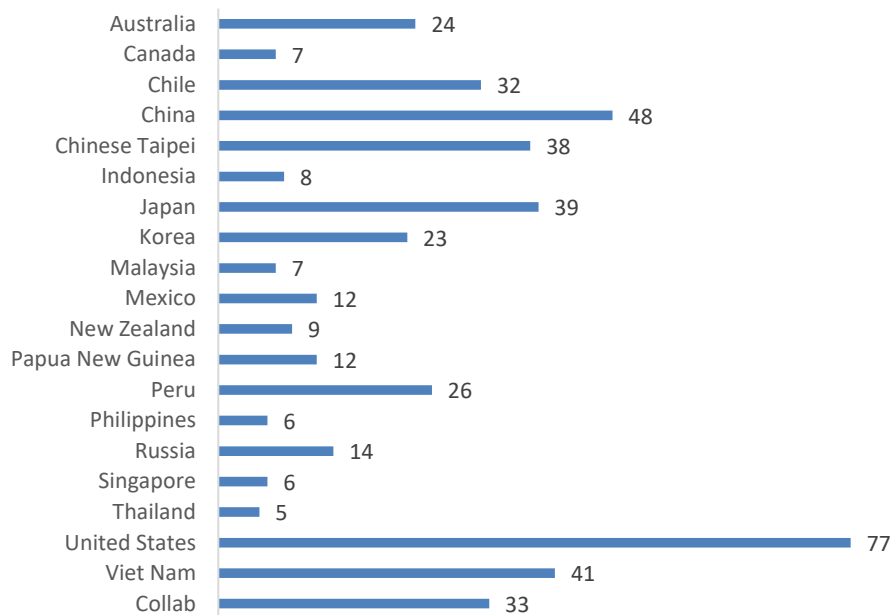
Note: EWG = Energy Working Group; CTI = Committee on Trade and Investment; SMEWG = Small and Medium Enterprises Working Group; HRDWG = Human Resource Development Working Group; EC = Economic Committee; SCSC = Sub-Committee on Standards and Conformance; PPSTI = Policy Partnership on Science, Technology and Innovation; PPWE = Policy Partnership on Women and the Economy; TPTWG = Transportation Working Group; PPFS = Policy Partnership on Food Security; OFWG = Oceans and Fisheries Working Group; IPEG = Intellectual Property Rights Experts Group; TELWG = Telecommunications and Information Working Group; Others = 23 forums with less than 10 completed projects from 2016-2020

Source: Estimated from APEC Projects Database (as of November 27, 2020)

⁷ As of November 27, 2020, list from APEC Projects Database.

A huge number of these completed projects are proposed by the United States, followed by China, Viet Nam, Japan, and Chinese Taipei (Figure 11).

Figure 11. Number of Completed Projects by Proposing Economy (2016-2020)



Note: Collab = Projects co-proposed by 2 or more economies

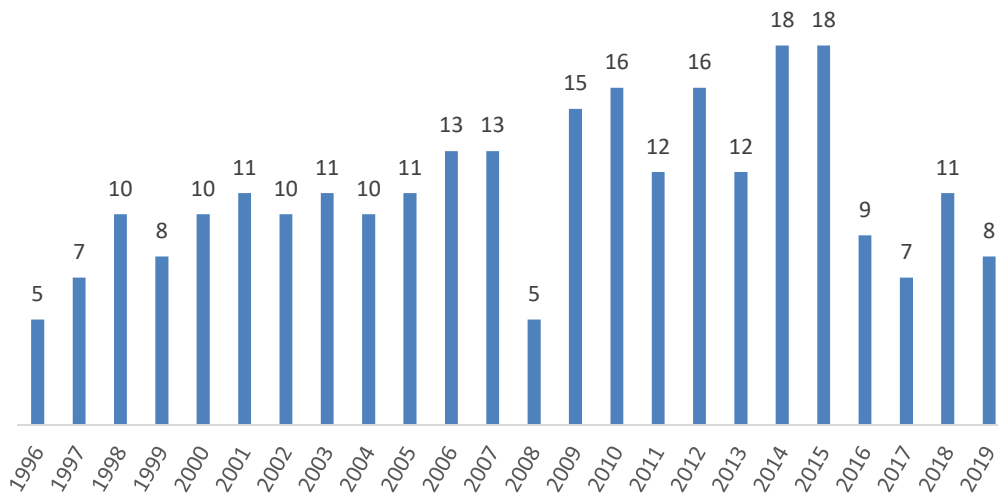
Source: Estimated from APEC Projects Database (as of November 27, 2020)

The importance of using these documents as sources of contents is that they contain information that can describe how APEC, as a whole, works, how its priorities change over time, and what priorities each member economies support depending on their individual interests. For instance, the Leaders' Statements contain information on the vision or goals of APEC, and the projects, advocacies, or activities the host country prioritizes in the duration of its hosting. Extracting some patterns of information from these documents may also reveal the level of cooperation and how integrated economies are based on the common priorities or projects they are supporting. One may also be able to identify similarities in their economic and political standpoints.

4.3. APEC Policy Tools

The APEC Policy Tools is another source of materials that can be used to produce patterns and trends of information using content analysis. It contains a summary of information concerning activities and proceedings in APEC, reports pertaining to the policy positions of APEC members on key issues, and the Philippine commitments in APEC. It is an initiative aimed at coming up with a single repository of information that are often scattered across different agencies and sources. The APEC Policy Tools are updated basically using reports from various agencies and reports circulated from the Technical Board of APEC Matters meetings. Usually chaired by Department of Trade and Industry (DTI) and the Department of Foreign Affairs (DFA), these meetings discuss matters concerning the Philippines' commitments and participations in APEC. Figure 12 shows the number of topics or issues that are discussed in the Policy Tools.

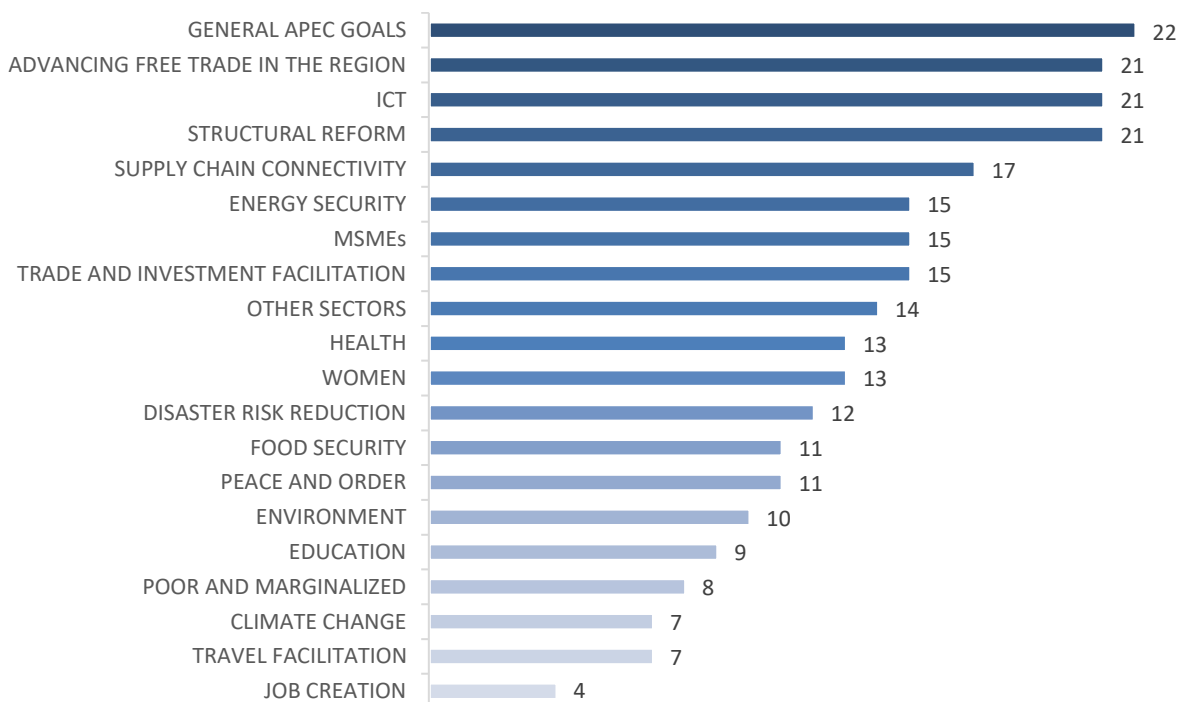
Figure 12. Number of APEC Topics in APEC Policy Tools



Source: APEC Policy Tools Database, PIDS-PASCN (as of December 6, 2020)

The APEC Policy Tools also reveals what topics member economies were mostly interested in from 1996 to 2019. Most prioritized topics include the general APEC goals, advancing free trade, ICT, and structural reforms (Figure 13).

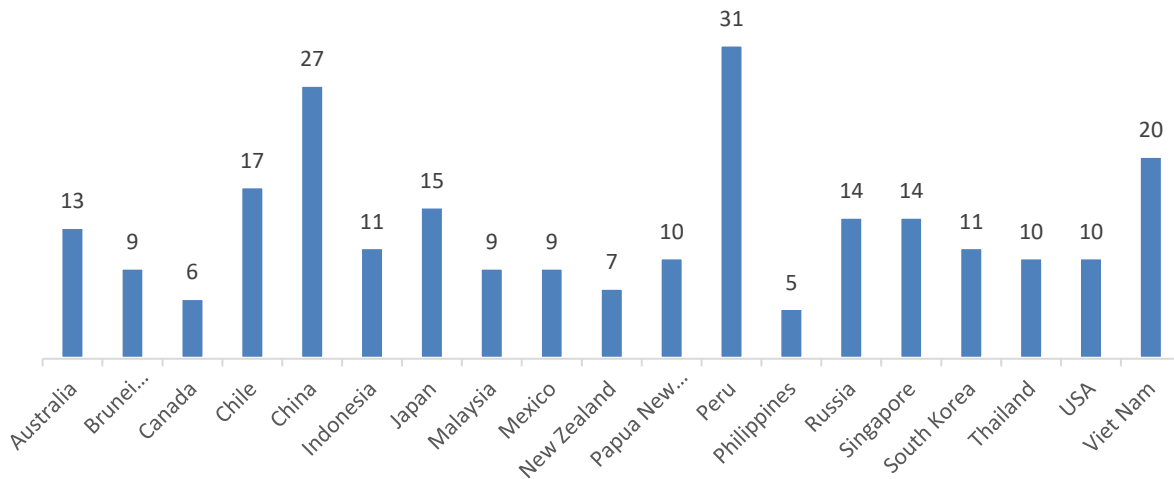
Figure 13. Frequency of Topic Prioritization During APEC Hosting (1996-2019)



Source: APEC Policy Tools Database, PIDS-PASCN (as of December 6, 2020)

Figure 14, on the other hand, shows the number of times or topics supported by member economies.

Figure 14. Support of Member Economies (1996-2019)



Source: APEC Policy Tools Database, PIDS-PASCN (as of December 6, 2020)

5. Literature review of Content Analysis in International Cooperation

In the context of international relations, content analysis offers a great deal in understanding how one economy benefits from the other, how regional cooperation works, or the role of international agencies in the development of a country. Comparing cases between economies, content analysis may reveal consensus information about how economies face issues, the strategies they make, or their economic and political environment and directions.

Using a mixed-method approach, combined with quantitative textual analysis in critical discourse, Matthias and Pühringer (2020), explored trade policy narratives to investigate how trade and related policies are addressed and framed in economic discourses. Using over 400 articles, they conducted thematic and in-depth analysis to inspect the formal structure of the economic discourse on trade issues and to identify the narratives present in the debate. The word frequency and word cloud revealed that the articles are leaning towards positive normative, making references to efficiency gains, welfare, productivity and comparative advantage impacts of trade, and an almost negligible negative view, while a significant number refrained from providing an explicit normative evaluation. The study also finds a majority of the articles to address policy implication and impacts of trade, significant reference to social and cultural impacts, while very few of these concern about the environmental and ecological impact.

In contrast to the use of journal articles, Lee and Lee (2019), utilizes speeches of political leaders to examine the implications of trade policies of US and China, particularly related to bilateral trade and the Belt and Road Initiative. Using word cloud, network similarities index, and machine learning approach, text mining analysis was employed to examine the meaning of speeches. Using these tools, the study reveals that US leaders appear to have different speeches while Chinese leaders tend to have similar speeches in terms of focus or meaning. Chinese leaders' speeches concentrate more on international and collaborative relationships, while US leaders' speeches focus more on domestic and economic interests. Analyzing the word hierarchy, the speeches of

American leaders contain basic words such as “agriculture”, “farmers”, “automobiles”, and “negotiations”, while Chinese leaders’ speeches contain “planning”, “markets” and “education”. The paper shows the different characteristics of speeches, which reveals the differences in the policy priorities of US and Chinese leaders.

In addition to the application of content analysis pertaining to international relations, in order to understand how political scientists perceived the crisis in European Union, Mitchell (2013) employs a qualitative method using slide shows. Slide shows, or videos of many images that tell a narrative, can capture the audience’s sense of involvement in current issues, including emotions, character, and interests. Having been able to collect such information, the results suggest the importance of globalism that shape Europe and that is critical to some European countries. It was revealed that globalism creates some pressures to the region that may cause some countries to exit in favor of global gains. This exercise emphasizes the importance of slide show or the use of media content to identify some patterns or narratives that may explain a certain event.

Considering the recent concern on global pandemic, Sharma et al. (2020) seek to understand the strategic and operational responses of policymakers and healthcare professionals in South Asian countries toward Covid-19. Eight leaders and seven healthcare professionals from the South Asian Association for Regional Cooperation (SAARC) were interviewed via video conference meeting, and using word frequency as the main tool, the responses were examined to generate patterns of information. The results revealed how South Asia were able to cooperate efficiently in addressing the pandemic.

Two main patterns of information were revealed – the strategic and operational responses, and the policy implications of the outbreak. On the strategic responses, it was found out that South Asian countries conducted surveillance and tracing of cases; imposed travel restrictions and evacuations; established isolation and quarantine facilities; conducted diagnostics, training, and safety protocols for healthcare providers; research activities; awareness building; as well as strategic responses to mitigate the impact to trade and economy. On operational responses, testing, tracing and screening, and determining the source and stage of spread, as well as precautionary measures were conducted and put in place.

On the other hand, the results revealed the direct cost of the pandemic on human health to these countries, which is further worsened by flawed economic and policy structures. This may result in some indirect losses and economic ripple effects. This suggests the need to formulate a divide and contain strategy, and external and internal human mobility, and to require a mandatory 14-day quarantine for travelers and strict implementation of lockdowns. The pandemic also compelled countries to reconsider healthcare-related policies and to increase investments for providing healthcare services and for purchasing necessary equipment. Private manufacturers were also encouraged to produce masks, PPEs, and important devices in response to global supply shortages. The role of public-private partnership was also recognized in relaxing less essential regulatory policies. Governments coordinated efforts for ensuring the hardest hit areas. Further, to cushion against the potential economic impacts, benchmark interest rates were reduced and monetary conditions were also extended to provide relief to businesses (Sharma et al. 2020).

This exercise revealed how countries have closely coordinated in order to address certain issues, which, in some way, says something about the quality of cooperation and relationship that exist between them. Understanding such reveals how countries belonging in a certain regional block are politically or economically integrated. This study also emphasizes the importance of using interview and conferences as content materials, as responses to interview questions are more

spontaneous statements and most likely may reveal the “real” character, personality, or perspective of the speaker, in contrast to pre-written statements or speeches. Interviews may reveal the private persona of a leader, which may define leadership skills and decision-making ability (Hermann 2008).

The role of the media is well recognized to play a crucial role in interpreting and disseminating ideas. Media content analysis can produce insights how policies and ideas are perceived in the local contexts. As media coverage reflects public policy and opinion, content analysis using media contents is considered an economical form of content analysis (Saraisky 2015).

Content analysis can also provide insights about existing beliefs or views that shape not only an economy but dominates a body of interest. For instance, in order to understand how the field of international relations looks like in South America, Medeiros et al. (2016) examine over 7,000 articles from 35 journals across 6 South American countries. Profiling the articles and journals according to epistemology, methodological and subjective preferences, the study reveals that international relations in South Africa is mainly influenced by positivists view and is largely quantitative, which resembles that of North America and Europe.

Moreover, content analysis can also be used in understanding the roles of international agencies in local economic development of a country. Using field visits and semi-structured interviews, in combination with available documents and reports, Milani et al. (2013) investigates how international agencies influence local decision making in Rio de Janeiro, and, in general, understand the role of development cooperation. The results revealed that, in terms of development cooperation projects, the allocation of funds is decided in the countries where funds and resources originated based on certain policy guidelines and priorities of those countries, and that the roles of local proponents or project partners are limited to the analysis and formulation of project proposals, validation of local ability to implement the project, and to check that the local interests meet the policy guidelines. The results also revealed that projects are usually politicized, which resulted to projects being discontinued if not supported by the next elected officials.

Table 3. Some research questions and programs used in the mentioned studies

Study	Research Questions/Objectives	Methods/Tools	Program/Software
Matthias and Pühringer (2020)	Examines how trade and trade related policies are addressed and framed in professional economic discourses	Mixed-method approach; word count, word cloud	MAXQDA
Sharma et al. (2020)	To understand the challenges brought by the Covid-19 pandemic in South Asia and investigate the strategic and operational responses of policymakers and healthcare professionals	Word frequency, word cloud, word mapping	NVivo 12
Lee and Lee (2019)	Examines the implications of US and Chinese policies on bilateral trade	Text-mining analysis using word cloud, network similarities index, and machine learning-	(not specified)

		process latent Dirichlet allocation (LDA)	
Saraisky (2015)	To produce and explain patterns and trends about education policy and how it is understood in local context	Media content analysis, coding and categorization of articles	Excel and STATA 12.0
Medeiros et al. (2016)	To provide a comprehensive picture of the International Relations field in South America	Word frequency	QDA Miner v.4.1.21 and WordStat 7
Milani and Loureiro (2013)	What are the main forms of action by international organizations (governmental, private, philanthropic, associative) for promoting local development in Duque de Caxias (DC)?	Qualitative analysis (documentary analysis)	(not specified)
Mitchell (2013)	Evaluate whether qualitative methods are useful in affecting how political scientists perceive the crisis in European Union	Qualitative method using keyword searches on video contents	YouTube analytics

6. Conclusion and Recommendation

Contents of many forms contain information that are not easily discernible. Making use of them therefore requires some tools to be able to generate patterns of information and draw inferences to explain certain phenomena. The use of content analysis has been rapidly increasing especially with the hope to understand or evaluate issues that are not easily explained using conventional techniques. By analyzing texts and other forms of media through coding or word frequencies, among others, correlations can be established to relate events beyond the logical relationships between subjects or variables. In the literature, content analysis of media and other materials are able to provide reliable and replicable results related to understanding pressing economic, social, cultural and political issues. For international relations, analyzing contents can be a useful means of describing and clarifying patterns of beliefs and zeitgeist that can guide policymakers and leaders in setting directions, making priorities, determining and addressing emerging issues, or preventing the occurrence of potential issues. Utilizing available documents and materials through content analysis will not only help understand the level of integration and cooperation among economies, but can also leverage in making use of ideas, perceptions, and general atmosphere to shape the direction of economic, social, and political discourse in the region.

Content analysis is beneficial in research works because it is able to generate information that cannot be drawn easily from structured data or data sources. Numerous content materials covering a wide array of issues are produced in APEC all the time. These unstructured data sources contain rich but hidden information that can be used to comprehensively understand how cooperation and participation in APEC are able to influence growth and development in the region. For the Philippines, APEC related information is scattered across different agencies, and are collected through the APEC Policy Tools. The collection, however, is highly dependent on agency reports and does not necessarily accurately reflect APEC activities.

Content analysis as a research tool transforms qualitative information that is present in these materials into quantitative data, thus it can be used to supplement existing quantitative information or the lack thereof. With the aid of available tools, such as STATA and NVivo, utilizing available documents and databases can help produce patterns of information that can explain how APEC and its economies behave, as governed by different issues within and outside the region. Content analysis can be used to determine changes in information present in contents or documents overtime. For instance, using word cloud analysis of different contents helps determine the focal issues that define the changing landscape of APEC for the last three decades. Thus, utilizing APEC documents can help answer a number of research questions. On the economic aspect, content analysis is useful in assessing the role of APEC in the growth and development of APEC economies and the region, in general, given the priorities and reforms it pushed over the years. It can also be used to compare and differentiate the economic prospects, perceptions, and growth strategies of member economies. Content analysis can also be used to determine potential developing relations or differences between economies by understanding how they are responsive or supportive of the advocacies of other economies. Content analysis can also be used to understand how well APEC is responding to the existing and emerging social issues based on the different activities and advocacies it pursues. Determining the trends of issues, content analysis can also help determine which issues APEC is constantly facing, which can help assess the effectiveness of its strategies or aid in the decision of creating new and more effective policies. Additionally, understanding individual member economies' priorities and advocacies can help assess the level of cooperation or integration of these economies to the priorities of APEC.

APEC's role in the Philippines is undeniably significant, particularly in terms of trade and investments. Deeper understanding about the dynamics of APEC can help the country better its standing with other economies and benefit further from the Cooperation. Doing such, however, may require additional tools, such as qualitative techniques, to come up with more effective and targeted policies and strategies. The general APEC goal of regional economic integration through trade and investment liberalization and facilitation, enhancing supply chain connectivity, and improvement of business environment, as well as other specific priorities concerning the promotion of MSMEs, ICT, education, health, food security, peace and order, among others, are consistent with the priorities of the current administration as outlined in its 10-point agenda, which include infrastructure development; agriculture development by raising the value chain between agriculture and business, including SMEs; and innovation in Science, Technology, and the Arts to enhance innovative and creative capacities for self-sustaining inclusive development and enhanced global economic participation. Examples of policy strategies recently implemented by the Philippines to achieve these goals include the following. The Philippines passed the Rice Trade Liberalization (RTL) law to boost rural development. It has also passed the Ease of Doing Business (EODB) Act to help provide a better business environment, in addition to maintaining peace and order, ensuring security of land tenure, and investing in human capital, health and education systems, to encourage investments. The Philippines also implements the Responsible Parenthood and Reproductive Health Law for better health and family planning. Clearly there is a synergy with domestic goals and strategies with APEC priorities.

This synergy can be further improved by accessing and adopting best practices in APEC. Using content analysis, the country's participation and collaboration with other economies can be deepened by obtaining information on the position of APEC economies and align the Philippine strategies in order to effectively cooperate with other APEC economies to achieve common goals. While the country is actively participating in APEC activities and projects, there remains room

for deeper collaboration and understanding in APEC that can be better informed with the use of content analysis.

Finally, while numerous studies have already been conducted on the use of content analysis in international relations, there has been no study for the Philippines that uses content analysis despite the availability of databases and the content analysis software. It is therefore recommended that content analysis be conducted using the contents databases being maintained by APEC and the PIDS to explore various questions related to APEC and the Philippines.

7. Bibliography

Ahuvia, A. 2001. Traditional, Interpretive, and Reception Based Content Analyses: Improving the ability of Content Analysis to Address Issues of Pragmatic and Theoretical Concern. *Social Indicators Research*, 54(2), 139–172.

Aistleitner, M. and S. Pühringer. 2020. Exploring the Trade (Policy) Narratives in Economic Elite Discourse, ICAE Working Paper Series, No. 110, Johannes Kepler University Linz, Institute for Comprehensive Analysis of the Economy (ICAE), Linz. (Retrieved through <https://www.econstor.eu/bitstream/10419/222440/1/1713950693.pdf> on December 9, 2020).

APEC PSU. 2019. APEC at 30: A Region in Constant Change. APEC Regional Trends Analysis. APEC Policy Support Unit, APEC#219-SE-01.5, Singapore: APEC.

Bazeley, P. 2007. *Qualitative Data Analysis with NVivo*. 2nd ed. Thousand Oaks, CA: SAGE Publications, Inc.

Bryman, A. 2008. *Social Research Methods*. 3rd ed. Oxford: Oxford University Press.

Dicle, M. F. and B. Dicle. 2018. *Content Analysis: Frequency Distribution of Words*.

Drisko, J. 2003. Improving Sampling Strategies and Terminology in Qualitative Research. Paper presented at the Society for Social Work and Research Annual Meeting (2003, January 17), Washington, DC.

Drisko, J. W. and T. Maschi. 2016. *Content Analysis*. Oxford, New York: Oxford University Press (2016).

Escobar, M. 2014. Studying Coincidences with Network Analysis and Other Statistical Tools. 2014 Spanish Stata Users Group Meeting. Barcelona, 23 October 2014.

Escobar, M. and J. L. A. Berrocal. 2015. Content Analysis with Stata. 8th Spanish Stata Users Group Meeting.

Escobar, M., P. Cabrera, C. Prieto., and D. Barrios. 2019. Interactive Graphs with Stata. 2019 Spanish Stata Users Group Meeting. Madrid, 17 October 2019.

Ginger, C. 2006. Interpretive Content Analysis. In *Interpretation and Method: Empirical Research Methods and the Interpretive Turn*, D. Yanow & P. Schwartz-Shea, (Eds.), pp. 341–349. New York: M.E. Sharpe.

Hermann, M.G. 2008. Content Analysis. In: Audie Klotz and Deepa Prakash (eds), *Qualitative Methods in International Relations: A Pluralist Guide*, pp. 151-167. New York: Palgrave MacMillan. (Retrieved through https://edisciplinas.usp.br/pluginfile.php/4250035/mod_folder/content/0/Textos/Klotz%20and%20Prakash%20Qualitative%20Methods%20in%20International%20Relations%20-%20A%20Pluralist%20Guide.pdf?forcedownload=1 on October 8, 2020).

Kaefer, F., J. Roper, and P. Sinha. A Software-Assisted Qualitative Content Analysis of News Articles:

Example and Reflections. Forum: Qualitative Social Research. Vol. 16, No. 2., Art. 8.

Krippendorff, K. 2013. Content Analysis: An Introduction to its Methodology. 3rd ed. Thousand Oaks, CA: SAGE Publications, Inc., in J. W. Drisko and T. Maschi. 2016. Content Analysis. Oxford, New York: Oxford University Press.

Laver, M., K. Benoit, and J. Garry. 2003. Extracting Policy Positions from Political Texts using Words as Data. American Political Science Review. Vol. 97, Number 2, May 2003, pp. 311-331.

Lee, J.Y. and J. Lee. 2019. A Text Mining Analysis of US-Chinese Leaders on Trade Policy. Journal of International Logistics and Trade, Vol. 17, No. 3, 2019, pp. 67-76. (Retrieved through https://www.ejilt.org/archive/view_article?pid=jilt-17-3-67 on December 9, 2020).

Lhoussain, A. S., G. Hicham, and Y. Abdellah. 2015. Adaptating the Levenshtein Distance to Contextual Spelling Correction. International Journal of Computer Science and Applications. Vol 12, Number 1, pp. 127-133.

Medeiros, M.D.A., I. Barnabe, R. Albuquerque, and R. Lima. 2016. What does the Field of International Relations Look Like in South America? Revista Brasileira de Política Internacional, 59(10): e004.

Mayring, P. 2000. Qualitative Content Analysis. Forum Qualitative Sozialforschung (Forum): Qualitative Social Research, 1(2), Art. 20. (<http://nbn-resolving.de/urn:nbn:de:0114-fqs0002204>).

Mayring, P. 2010. Qualitative Inhaltsanalyse, Grundlagen und Techniken. 11th ed. Weinheim: Beltz, UTB.

Milani, C.R.S. and J.C. de S. Loureiro. 2013. International Cooperation and Development: Analyzing the role of International Agencies in Duque de Caxias (Rio de Janeiro). Cadernos EBAPE.BR, vol. 11, no. 2, paper 2, Rio de Janeiro, June 2013, pp. 234-255. (Retrieved through <https://carlosmilani.files.wordpress.com/2013/08/9215-20785-1-pb.pdf> on November 21, 2020)

Mitchell, C.L. 2013. European Union's Crisis and Qualitative Methods. 2013 Western Political Science Association Meeting, Hollywood, California, March 30, 2013. (Retrieved through <http://www.wpsanet.org/papers/docs/Mitchell2013%20WPSA.pdf> on November 21, 2020).

Neuendorf, K. A. 2002. The Content Analysis Guidebook. Thousand Oaks, CA: SAGE Publications, Inc., in J. W. Drisko and T. Maschi. 2016. Content Analysis. Oxford, New York: Oxford University Press.

Neuendorf, K. A. 2007. Computer Content Analysis Programs. (Retrieved from <http://academic.csuohio.edu/kneuendorf/content/cpuca/ccap.htm>).

Neuendorf, K. A. 2017. The Content Analysis Guidebook. 2nd ed. Thousand Oaks, California: SAGE Publications, Inc.

Patton, M. 1980. Qualitative Evaluation Methods. Newbury Park, CA: SAGE Publications.

Pattyn, V, A. Molenveld, and B. Befani. 2017. Qualitative Comparative Analysis as an Evaluation Tool: Lessons from an Application in Development Cooperation. American Journal of Evaluation,

2019, vol. 40 (1), pp. 55-74. (Retrieved through <https://journals.sagepub.com/doi/pdf/10.1177/1098214017710502> on November 21, 2020).

Quimba, F.M. and Barral, M.A. 2019. The Evolution of APEC and its Role in Philippine Trade and Investment. Philippine Institute for Development Studies, Discussion Paper Series No. 2019-07. July 2019. Philippines: PIDS.

Raffo, J. D. 2016. Data Consolidation and Cleaning using Fuzzy String Comparisons with `matchit` Command. 2016 Swiss Stat User Group Meeting. 17 November 2016.

Reichertz, J. 2010. Abduction: The Logic of Discovery of Grounded Theory. *Forum: Qualitative Social Research*, 11(1), unpaginated online document. (Retrieved from www.qualitative-research.net/index.php/fqs/article/view/1412).

Riffe, D., S. Lacy, and F. Fico. 2014. *Analyzing Media Messages: Using Quantitative Content Analysis in Research*. 3rd ed. New York and London: Routledge (Taylor and Francis Group).

Rosenbaum, P. 2010. *Design of Observational Studies*. New York: Springer.

Saraisky, N.G. 2015. Analyzing Public Discourse: Using Media Content Analysis to Understand the Policy Process. *Current Issues in Comparative Education* 18(1), pp. 26-24. New York: Columbia University. (Retrieved through https://www.tc.columbia.edu/cice/pdf/03_Green-Saraisky-CICE-18.pdf on November 21, 2020).

Schreier, M. 2012. *Qualitative Content Analysis in Practice*. London: SAGE Publications Ltd.

Schwarz, C. 2018. `ldagibbs`: A Command for Topic Modeling in Stata using Latent Dirichlet Allocation. *The Stata Journal*, 18, Number 1, pp. 101-177.

Schwarz, C. 2019. `lsemantic`: A Command for Text Similarity based on Latent Semantic Analysis. *The Stata Journal*, 19, Number 1, pp. 129-142.

Sharma, G.D., G. Talan, M. Srivastava, A. Yadav, and R. Chopra. 2020. A Qualitative Enquiry into Strategic and Operation Responses to Covid-19 Challenges in South Asia. *Journal of Public Affairs*, 2020, 20:e2195. (Retrieved through <https://onlinelibrary.wiley.com/doi/epdf/10.1002/pa.2195> on November 21, 2020).

Smith, A. M. 1999. *Girls on Film: Analysis of Women's Images in Contemporary American and "Golden Age" Hollywood Films*. Unpublished master's thesis. Cleveland State University, Cleveland, OH.

Tamayo, E. 2020. APEC and the Philippines. A presentation during the Public Webinar on Understanding the Role of Asia-Pacific Economic Cooperation (APEC) in the Philippine Trade and Investment, held on November 26, 2020, Philippine Institute for Development Studies, Philippines.

Williams, U. and S. P. Williams. 2014. `txttool`: Utilities for Text Analysis in Stata. *The Stata Journal*, 14, Number 4, pp. 817-829.

Websites:

APEC. 2020. Meeting Document Database. <http://mddb.apec.org/Pages/default.aspx>

_____. 2020. Projects Database. <https://aimp2.apec.org/sites/PDB/default.aspx>

Kent State University. 2020. Statistical & Qualitative Data Analysis Software: About NVivo. (Accessed through <https://libguides.library.kent.edu/statconsulting/NVivo>, August 2020)

Signorell, A. 2020. Compute Distances between Strings. (Accessed through <https://andrisignorell.github.io/DescTools/reference/StrDist.html>, on 9 August 2020)

Provalis Research. 2020. WordStat for Stata. (Accessed through <https://provalisresearch.com/products/content-analysis-software/wordstat-for-stata/>, on 8 August 2020)

QSR International. 2020. NVivo 12 (Windows) (Accessed through <https://help-nv.qsrinternational.com/12/win/v12.1.90-d3ea61/Content/welcome.htm>, August 2020)