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MAXQDA and its Application to LIS Research

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Abstract

MAXQDA is a qualitative software to analyze mixed methods data and qualitative findings in the field of text, video, and photo which is used for explaining and theoretical analysis in the social and cultural phenomena. This study aims to review the software, especially for the LIS researchers to do their study in a scholastic manner. LIS researchers need to support and improve their study by preparing the qualitative data with MAXQDA, code with coding system and organize the data for analysis. Content analysis and thematic analysis are two types of the analysis which are completed by using this software. This software can be used by the researchers to classify the data. It is recommended to all the investigators to use MAXQDA as one of the leading software in their study. This paper will increase the knowledge about the use of qualitative research methods in the field Library and Information Science (LIS). Therefore, introducing this software to all researchers is necessary.

Keywords: MAXQDA, Library and Information Science, Qualitative analysis, Content analysis, Thematic analysis.

Introduction

Scientists have pointed out the growth in the use of qualitative research methods in the field of Library and Information Science (LIS). The importance of using qualitative analysis has become apparent. There are lots of software to do the qualitative analysis in the research including MAXQDA, ATLAS, NVIVO. All of the software will help the researchers to analyze the data systematically and quickly. Also, there are some types of the analysis which can complete the research such as content analysis and thematic analysis.

The study aims to review MAXQDA software and help the LIS researchers in analyzing and reporting the data and systematically presenting their research. The authors have tried to explain the primary functions of the software including creating a project, coding, using

visual tools, conducting text retrieval, and creating models, also presenting how it will be useful for LIS researchers.

MAXQDA

MAXQDA is a software designed for computer-assisted qualitative and mixed methods data, text and multimedia analysis in academic, scientific, and business institutions. It is being developed and distributed by VERBI Software based in Berlin, Germany. It is a professional software for qualitative and mixed methods data analysis (MAXQDA Product). It is accessible for Windows and Mac OS X. It can analyze all types of data such as interviews, articles, media, surveys, twitter, and more. It has been accessible since 1989, with stable, innovative and easy to use analytical tools that help make a research project successful. Lewis and Silver (2007) mentioned that “the emphasis on going beyond qualitative research can be observed in the extensive attributes function and the ability of the programme to deal relatively quickly with larger numbers of interviews.”

History of MAXQDA

The simple version of MAXQDA suggests tools for any institute and analysis of qualitative data. It contains some quantitative data analysis tools. MAXApp is a mobile application which comprises the primary functions of the software. It allows customers to generate and code information and records in the arena, and export to a computer or an existing MAXQDA project. It is part of QDA group software programs which developed the field of data analysis. It received an affirmative status as an analysis tool and become one of the leading QDA software packages.

According to MAXQDA Products, “version history of MAXQDA are as follow:

- 1989: MAX (DOS)
- 2001: MAXqda (Windows)
- 2003: MAXDictio (Add-on for quantitative text analysis)
- 2005: MAXMaps (Add-on for visual mapping)
- 2007: MAXQDA 2007 (Windows)
- 2010: MAXQDA 10 (Windows)
- 2012: MAXQDA 11 (Windows)
- 2012: MAXApp for iOS (iOS App)
- 2014: MAXApp for Android (Android App)
- 2014: MAXQDA 11 (Mac OS X)
- 2015: MAXQDA 12 (Universal for Windows and Mac OS X)”

Features of MAXQDA 12

Based on MAXQDA Products, “the features of MAXQDA 12 are as follow:

- Import of text documents, tables, audio, video, images, twitter tweets, surveys
- Data is stored in the project file
- Reading, editing, and coding data
- Settings links from one part of a document to another
- Annotating data with memos
- Visualization options (number of codes in different documents)
- Import and export demographic information (variables) from and to SPSS and Excel
- Searching and tagging words
- Transcription of audio and video files
- Internal program media player
- Linking data with georeferenced (.kml)
- Tools for summarizing the content
- Code with Emoticons and Symbols
- Export to text, Excel, HTML, XML, and special reports
- Create Frequency Tables and Charts
- User management”

Functions of MAXQDA

The functions of MAXQDA are as follow:

- Organize and categorize data

It is for managing entire research projects. It imports data from interviews, focus group, online surveys, web pages, images, audio and video files, spreadsheets, bibliographical data, and even Twitter tweets easily. It categorizes study material in one collection, connects allied quotes to each other, and shares and matches work with other fellows of the group.

- Code and retrieve

It spots core information with different codes by regular codes, colors, symbols, or emoticons. It codes fast through drag & drop or by automatic coding. It organizes opinions and theories in memos that stick to every part of the research. Retrieve coded segments is accessible with only one click.

- Analyse and transcribe media

It is for coding of audio and video records without creating a transcript first or transcribes the media to analyze the text. Media clips are like any other parts of the software.

The structure of work in MAXQDA

According to MAXQDA 2007, “published in Marburg, when the researcher starts the program, it saves every step automatically. The four windows are as follow:

- The “Document System” shows imported texts, images, and multimedia files in the project. Entire study material is collected here and organized into multiple texts.
- The “Code System” contains the category system with the created codes and subcodes, as well as the number of administered code segments.
- In the “Document Browser,” one document from the “Document System” appears and can be edited, which means that researcher can mark text segments, attach codes, or create memos. Georeferenced are also visualized in the Document Browser.
- The “Retrieved Segments” window allows the researcher to look at a selection of coded segments that correspond to the activated documents and codes.”

Document portrait: visualizing a document

The reference manual of MAXQDA 12 specified that a “Document Portrait” displays the sequence of codes for a particular file. This picturing can mark as a case-oriented role. The file is displayed as an image of all the coded segments based on the order and colors of the codes. For thematic analysis, it can be suitable to use different colors with different topics. Then, the investigator can directly see which topics dominate the discussion and which topics are closely related.

Model templates in MAXMaps

Reference Manual of MAXQDA 12 stated that the researcher might focus on one part of the material which can be a text, code or on a particular hypothesis or theoretical phase mentioned in a memo. It gives fast, available answers for the conditions. This software uses settings and data to generate a proper diagram in MAXMaps which can be edited, added to, or rearranged as investigator realize essential. It creates outcomes that an investigator can perceive: the graphics quality is superb, and export, print out the maps as large posters for presentations. There are five different models: (MAXQDA 12: The Art of Data Analysis)

1. One-Case Model: Entire related data assigned to a document is demonstrated on the map. It contains memos, codes, and coded segments.

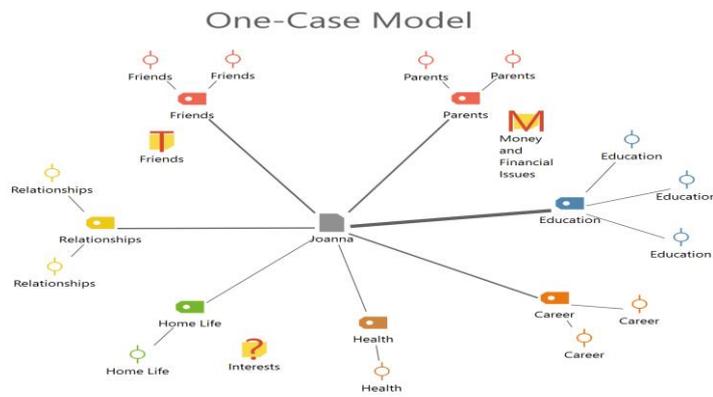


Figure 1: One-case model in MAXMap

2. One-Code Model: it is similar to the One-Case Model, excluding that emphasis is on code instead of document. The coded segments and memos assigned to the code are involved here along with any memos that are related to the code.

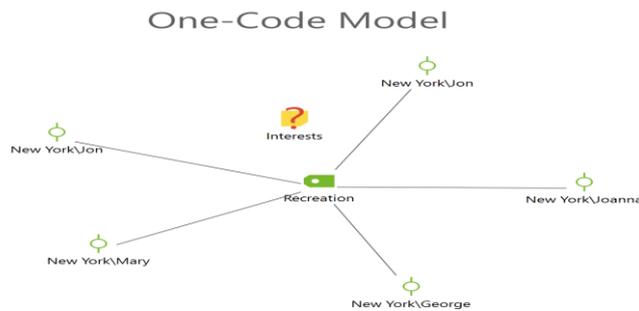


Figure 2: One-code model in MAXMap

3. Code Theory Model: it mainly supports the theory development. It shows entire memos (with ideas and hypotheses) assigned to the particular code.

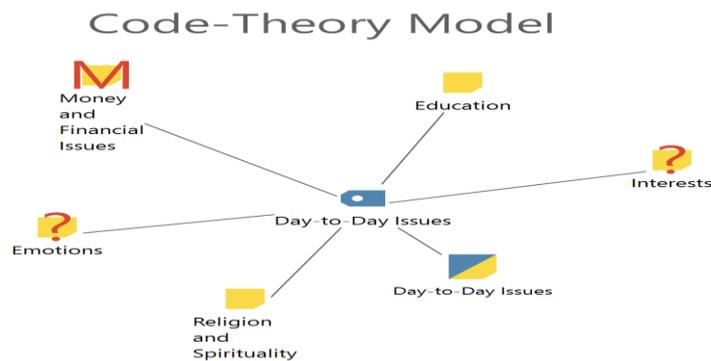


Figure 3: Code-theory model in MAXMap

4. Code Co-Occurrence Model: The model indicates the relations and connections among particular codes. One or more codes are picked and sent to the MAXMaps window. All codes that cross with some of the selected codes are connected with an arrow. A different number

of sections is possible in this model. It is one of the complex models along with the subcodes.

Code Co-Occurrence Model

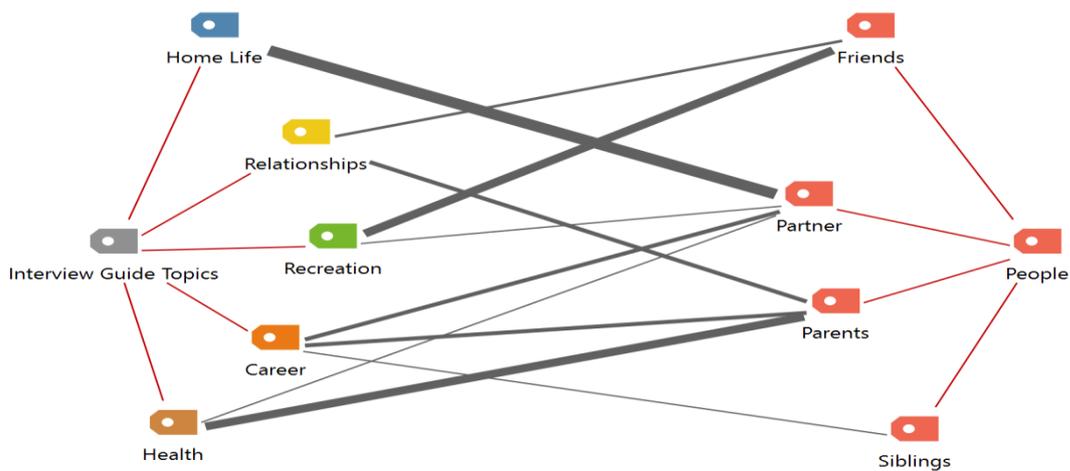


Figure 4: Code co-occurrence model in MAXMap

5. Code-Subcode-Segment Model – it has the maximum complexity between all models. The subcodes, linked memos, and the coded segments for all chosen codes will be shown in one model.

Code-Subcode-Segments Model

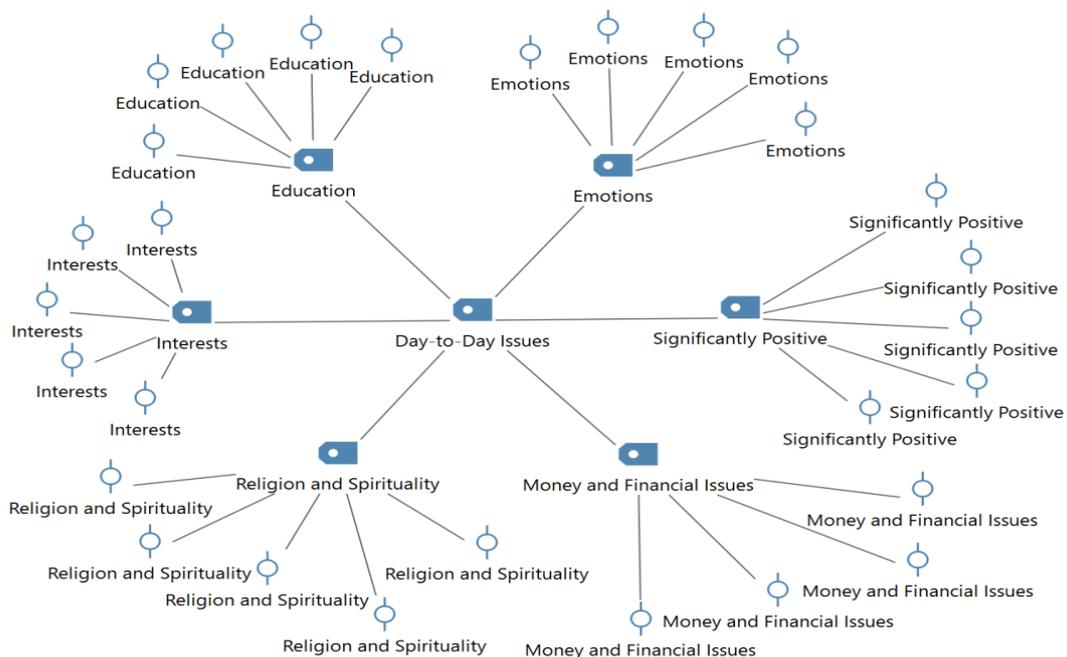


Figure 5: Code-subcode-Segments model in MAXMap

MAXQDA and mixed method

Creswell, (2013) defined “mixed methods research is the collection, analysis, and mixing of qualitative and quantitative data in research.” Tashakkori & Teddlie, (1998); Creswell &

Plano Clark, (2007) explained that mixed methods research is the procedures for gathering, analyzing and concluding quantitative and qualitative data in the research.

Fidel, (2008) studied that Mixed Methods Research (MMR) which mixes qualitative and quantitative methods to increase the value of the research. Study of 465 articles published in four leading LIS research journals discovered that 22 articles (5%) hired MMR. The position of MMR can be presented by exploring books and articles about research methods and analyzing research reports in LIS.

The investigators have studied the research methods used in LIS and classified them. Powell, (1996) presented a paper regarding trends in LIS study. However, earlier studies had revealed a growth in the use of multiple research methods.

Pashaeizad, (2009) stated that MMR has been involved in research, and known as the third leading research method, besides qualitative research and quantitative study. Exploration of problems in an LIS studies needs a decision about proper research strategy. In this way, the investigator needs to have a philosophical approach or a research paradigm. He revealed that because of the complexity of problems in LIS, such as information technologies, digital libraries, the quantitative or qualitative research methods cannot examine problems about them. Hence, investigators require mixed methods research.

Application of MAXQDA to LIS research

Over the past two decades, investigators have stated the growth in the use of qualitative research methods in the field Library and Information Science (LIS). Juznic and Urbanija (2003) noted, LIS has appeared as a research discipline, not as an educational program. The study required to produce innovative knowledge and thereby contribute to the development of LIS as a profession or discipline. Pashaeizad, (2009) mentioned that the issues of the research got further complex in social science. He stated that previous research methods could solve the various research difficulties in multidisciplinary areas such as LIS any longer, so needs of new methods for the study of the issues arose. Searching books and articles and analyzing research reports can discover the rank of mixed methods in LIS.

MAXQDA is software for qualitative and mixed methods data analysis and assists LIS researchers to analyze all types of data such as interviews, focus group, panel discussion, articles, media, surveys, twitter, and more. The researchers can import and organize several forms of data. These research resources can comprise all categories such as text, images, tables, pictures, graphics.

The reason for LIS researchers to use MAXQDA is that if we need to take a photo from a manuscript and use it as data, this software will help the researchers to upload the photo and

analyze it as text. Another reason is that we have to analysis some types of the document which is in interview format or result of the focus group and panel discussion. Subsequently, we require MAXQDA software to analyze these kinds of the qualitative data which we have as data in Library and Information Science research.

The software can do two types of the qualitative analysis: first content analysis which is defined by Terry College of business “as a research technique to make valid inferences by interpreting and coding textual material. By systematically evaluating texts, qualitative data changed into quantitative data”. Recently, the researchers use this method more in the social sciences. With this method, the LIS researchers can use content analysis in their research. Therefore, they can count the words and phrases which are existing in their text. The second technique which researchers can use in their research is a thematic analysis that shows the relationship between the sentences and phrases. MAXQDA software is one of the methods which allow researchers to do the thematic analysis. In this way, they can select a code to analyze the data and write a report based on its outputs.

As Anderson, (2007) defined Thematic Content Analysis (TCA) in his article, a detailed presentation of qualitative data. Qualitative data can be in the interview format which is responded by candidates or other known texts that display on the subject of research. Some software is easy to get and computerize the tagging and to categorize of texts and suitable in the analysis of numerous copies.

Conclusion

MAXQDA is a qualitative software to analyze data and quantitative findings in all fields which can have an appropriate use for explaining and theoretical analysis in the social and cultural phenomena. Qualitative analysts’ constant goal is to achieve the highest possible level of agreement between independent coders. However, in qualitative research, the focus is not on obtaining standardized coefficient. Instead, the focus is on practical improvements in coding quality. For this purpose, the researchers do not have a focus on coefficient or percent agreed. Somewhat, qualitative researchers want to study and edit encoded sections which were not agreed, so they can more accurately encode content to continue their way. It can make the data ready to use it in a mixed method for LIS researchers. It can do the qualitative analysis such as content analysis and thematic analysis. Researchers can develop a conceptual model by this two qualitative analysis. Also, they can use this software to develop qualitative and mixed method researchers in Library and Information Science.

References

1. Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approach*. Sage publications.
2. Creswell, J.W & Plano Clark, V.L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.
3. Fidel, Raya. (2008). Are we there yet? Mixed methods research in library and information science. *Library & Information Science Research*, 30, pp. 265–272.
Information Science Research, 21, pp. 91–119.
4. Juznic, P. & Urbanija, J. (2003). Developing research skills in library and information science studies, *Library Management*, Vol. 24, No. 6/7, pp, 324-331.
5. Lewis, A., & Silver, C. (2007). *Using software in qualitative research: A step-by-step guide*. Sage.
6. Pashaeizad, Hossein. (2009). A Glance at the Characteristics of Mixed Methods and Importance of its Applications in LIS Researches. *Qualitative and quantitative methods in libraries - Theory and Applications: Proceedings of the International Conference on QQML2009*. © World Scientific Publishing Co. Pte. Ltd.
7. Powell, R.R. (1996). *Recent Trends in Research: A Methodological Essay*, Library Research seminar I, Florida State University, Tallahassee, November, pp. 1-2.
8. VERBI Software. (2007). *MAXQDA 2007: Introduction*. Marburg, Consult. Sozialforschung. GmbH.
9. MAXQDA Products. Available at: <http://www.maxqda.com/products/maxqda>. Oaks, CA: Sage. (Accessed on 10 February 2016)
10. MAXQDA 2007: Introduction. Marburg, Consult. Sozialforschung. GmbH. (2007).
11. MAXQDA 12: The Art of Data Analysis: Reference Manual. Support, Distribution: VERBI Software. Consult. Sozialforschung. GmbH Berlin/Germany. P.243 and 268.
12. Content Analysis Methodology & Prominent Scholars | Terry College of business. Available at: <https://www.terry.uga.edu/management/contentanalysis/research/>
13. Anderson, R. (2007) *Thematic Content Analysis (TCA): Descriptive Presentation of Qualitative Data*, Institute of Transpersonal Psychology. p.1. Available at: <http://www.wellknowingconsulting.org/publications/pdfs/ThematicContentAnalysis.pdf>

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