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The Degree of Using Qualitative Data Analysis Software among Researchers in the Sultanate of Oman

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Abstract

Qualitative research offers a rich tapestry for understanding educational phenomena through the lived experiences of educators and stakeholders. However, navigating the intricacies of thick descriptive data presents a significant challenge for researchers. This study delves into this very challenge, specifically focusing on the role of NVivo software in streamlining qualitative data analysis for researchers in the Sultanate of Oman. Employing a mixed-methods approach, the study utilizes both descriptive and exploratory methods to diagnose the current state of qualitative data analysis practices in Omani educational research. By examining the implementation of a specific educational policy, the research aims to gain in-depth insights into the challenges faced by researchers and ultimately determine if qualitative analysis contributes to enhancing teacher quality within the Sultanate. The findings reveal a critical gap in researchers' skillsets. While Omani researchers demonstrate a moderate understanding of the qualitative approach, the study identifies a significant hurdle in their ability to utilize dedicated qualitative data analysis software like NVivo. In response to this challenge, the study recommends fostering a culture of qualitative research within the Omani educational research community. Encouraging researchers to embrace qualitative methodologies and providing targeted training on software tools like NVivo can empower them to extract deeper meaning from qualitative data, leading to richer understandings of educational phenomena and ultimately contributing to improved educational outcomes.

Introduction

There is a growing interest on the part of the academics as well as students, administrators, policy makers and public organizations to see more a meaningful and productive research put into place because research have a vital role in the educational institutions. The academic organizations have come to believe that the key to educational reform lies as much in improving the quality of research as in overhauling universities programs and courses. It is broadly acknowledged, based on an increasing body of studies, that research quality is the highly critical factor of universities success (Al Qahtani, 2020, Hazelkorn, 2015, Vettori, Loukkola, 2014 & Williams, 2008)

Initially, the research approach has derived from natural science i.e., Biology, Chemistry Physic, and Geology. The concern of these fields is investigation of what is visible and measurable. That is the rise of the quantitative approach. This approach with no doubt is very important in describing, analyzing, and evaluating the phenomena.

Quantitative approach, however, does not ensure successful understanding of the phenomena deeply from interior. Qualitative approach, on the other hand provides the researcher with the help in obtaining highly descriptive accounts of the phenomena taking place. Unlike the quantitative approach, qualitative inquiry is a method of research that describes phenomena

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based on the point of view of the informants, discovers multiple realities and develops holistic understanding of the phenomena within a particular context (Glickman et al., 2007).

Moreover, qualitative approach has an advantage of providing the data that enriches the study. Via this approach, the researcher can figure out the knowledge, skills and attitudes pertaining to phenomena as perceived by the participants. Mack et al. (2005) indicated that the strength of a qualitative approach lies in its ability to support complex text-based explanations of how people approach a given research problem. According to them qualitative approach “provides information about the “human” side of an issue—that is, the often-contradictory behaviors, beliefs, opinions, emotions, and relationships of individuals” (p. 1).

In some fields, qualitative research acquires a certain importance. Smit (2005) asserts that this approach can provide results of possible utility in policy as well as more complicated analyses. This would encourage policymakers and policy researchers to accept the idea and the expertise of the employees and build on that. Moreover, by using a qualitative approach, the researcher can obtain a penetrating comprehension of such policies, which may provide a guide for deep research on policy implementation (Alyahmadi, 2012, Bell et al.2002).

Furthermore, a qualitative approach has special potential in education. There are many educational research issues, particularly in developing countries, for which a quantitative research approach has been implemented when a qualitative one would have been more fitting. Qualitative data offers a deep understanding of the teaching and learning process that cannot always be expressed via numbers (Creswell, 2013, Caulley, 2008 &Creswell, 2007). Notably, the narrative pattern of the qualitative approach can also be more straightforward for a broader array of prospectively interested parties.

Educational researchers have become more convinced to adopt qualitative approaches to obtain data-based results that have the potential to reform the educational situation. Qualitative research by means of interviews, observation, and document analysis is most likely to contribute to educational theory, policy, and implementation. These qualitative data drive the researcher to study certain areas of concern for educational organizations and develop action plans as needed. Moreover, it provides a researcher with a thorough understanding of the student's learning mechanism and the way to ask questions and listen to his answers.

Although there are many reasons for using a qualitative approach in the education field, many researchers still avoid it because it is a difficult process to analyze. Nevertheless, there is an increasing body of literature dedicated to simplifying the analysis of qualitative research (Alyahmadi& Alabri, 2013).

Data analysis, including the coding process, is considered a great challenge that hinders the researcher from applying qualitative research. Coding involves pursuing related words or phrases mentioned by the interviewees or in the documents (Bordens and Abbot 2002 &Miles and Huberman, 1994). These words or phrases are then combined to realize the connection between them.

Nvivo has great advantages and can greatly improve the quality of the study. The analysis of qualitative data has become easier and yields a more professional output. In fact, the software decreases incredible tasks and gives the researcher more time to investigate trends, identify themes, and draw conclusions (Wong, 2008). Besides, Nvivo is considered a perfect method for researchers working in a group since it makes it easy to combine individual efforts to create a project like Deterding and Waters (2021).

Research Problem

There are many reasons for utilizing qualitative research within the educational arena; however, many academics still evade using it for its analyzing difficulty. However, a considerable amount of effort is exerted by scholars to ease the analysis's complexity (Alyahmadi& Alabri, 2013).

Nvivo has incredible points of interest and can significantly improve the quality of the research. This software program has the potential to raise the number of qualitative researchers in education, in particular. Yet, it is rarely utilized by researchers due to many reasons, such as a lack of encouragement from the institutions, its high price, and the scarcity of specialists in Nvivo.

This study tries to describe the situation of the implementation of qualitative research as well as probe the obstacles facing the researchers in utilizing Nvivo.

Research Questions

- 1- To what extent researchers in the Sultanate of Oman aware about the qualitative approach?
- 2- What are the obstacles facing the researchers in the Sultanate of Oman in utilizing the qualitative approach?
- 3- To what extent researchers in the Sultanate of Oman master the qualitative analysis software programs?
- 4- Are there any statistically significant differences at a significance level lower than 0.05 in the levels at which Omani researchers use qualitative data as per the variables of gender, profession, academic qualifications and the interaction among them?

Literature Review

Software programs for qualitative research provide excellent facilities. They, for instance, can handle all records, no matter how the interviews were conducted in the field. The researchers can import notes, audio, and video recordings. Consequently, the researcher can auto-generate transcripts from transcription services, Word, or PDF files with highlighting and comments. The researchers can specifically color some documents and organize them into document groups by location, time, subject, category, and more.

In terms of transcribing the interviews, with the integrated software transcription tool, the researcher may quickly and easily manually transcribe audio or video files. These programs start coding the data right away and include notes and paraphrases as the researcher interprets the result to create beyond any doubt that he simply gets all the researcher needs to begin an idea that comes to his or her mind. Regarding the coding process, the programs allow the researcher to drag and drop data to first create codes and then assign a code to a text segment. The researcher can enhance the workflow by utilizing the code title recommendations and rapidly resizing coded fragments with the grabbers. Coding in-vivo as the researcher read the interview transcript, making codes straight from the words or phrases to create code directly from the words and phrases in the interview. Moreover, for the focus group transcript, the researcher can use the codes and documents generated by the automatic speaker recognition to conduct individual or group analysis.

The researcher can go forward with developing the Interview Analysis. The programs allowed the researchers to use this note feature to track ideas, as well as the circumstances that influenced the rational conclusions and any new data revealed spontaneously. In addition, these software applications accept the use of the paraphrasing tool to review certain portions of the text with the researcher's own words and summarize a huge quantity of data into a readable overview. Most of the time, some of these applications have an interactive dashboard through which the researcher can use the collected data via interviews to develop theories in a grounded theory approach.

In the case of visualization and publishing collected data, software programs play an important role. The software enables the researcher to create a synopsis of row data as well as analyze it for publishing and presentation purposes. He can, as well, create great images, graphs, and statistics to illuminate some points in the findings and share them with the shareholders.

Five crucial tasks in which Nvivo simplifies the analysis of qualitative data. These tasks, according to Cropley (2019), Alyahmadi (2012) & Flick, (2002) are:

- **Data Management:** organize multiple messy data documents. That includes transcripts of interviews, research, observational notes, and published documents.
- **Idea Management:** Understanding the conceptual and theoretical questions generated over the course
- **Inquiry information:** ask multiple questions about the information and use software to answer those queries. The results of the query are saved for further querying, so that the query or search becomes part of the ongoing investigation process.
- **Visual modeling:** create diagrams that show relationships between the conceptual and hypothetical information.
- **Report:** use the information collected and the results found to produce a transcript report of the research conducted.

The researchers had a respectable chance of acquiring the software via our university. Through self-learning, they understand the mechanism of Nvivo, a Qualitative Data Analysis (QDA) computer software package produced by QSR International. Additionally, the researchers went through the lessons enclosed with the Nvivo software. That lesson offers stepwise dynamic learning as the researchers can start using Nvivo immediately. The researchers adopted a method developed by Khankeh, et.al. (2015), Alyahmadi (2012) & Merriam, S.B. et al (2002). for utilizing Nvivo in the procedure of the analyzing process, as demonstrated in Figure (1). These methods are:

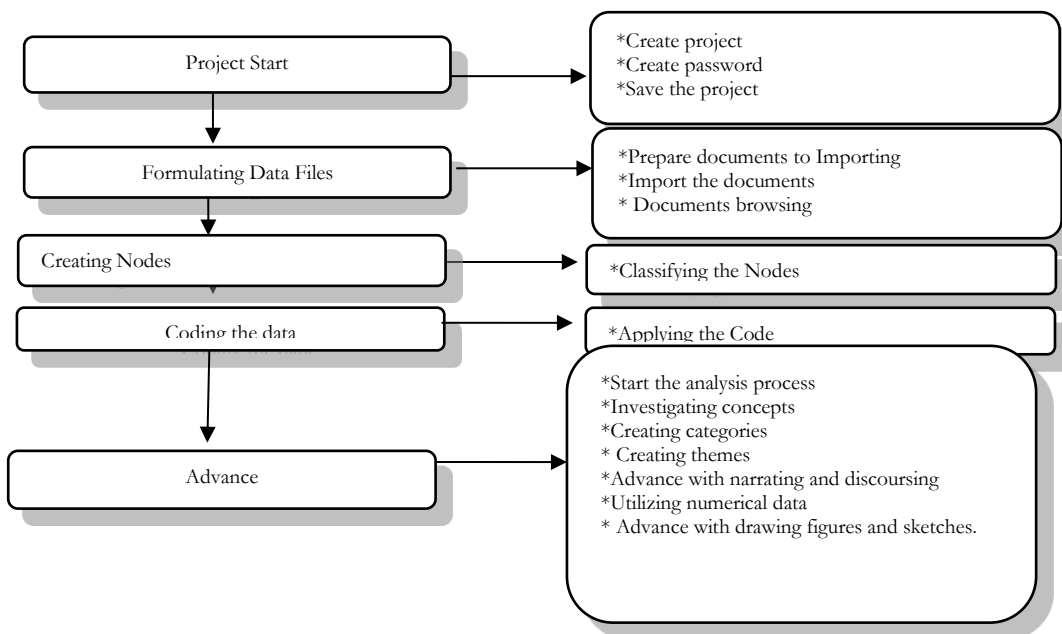


Figure (1): Implementation Process of Nvivo Adopted from Alyahmadi (2012).

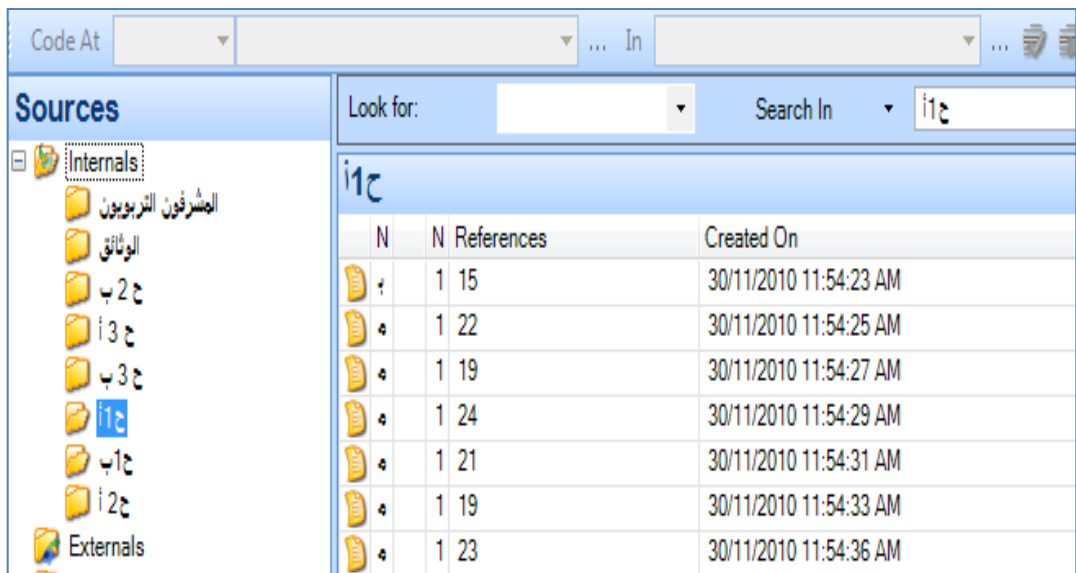


Figure (2): Nvivo Screenshot of the Study's Project (An Arabic Project).

- **Project Start:** The initial point here is to generate a particular project. The project includes all the documents, coded data, and related materials that can help analyze the data. For more security, the researcher can create his or her own password, as shown in figure 2.
- **Formulating Data Files:** Most of the researchers are recording the interviews in digital form. They also save these interviews in some files after transcription. The researcher usually prepares these files for import. Nvivo helps the researcher import the intended files into the program. The Browser eases the way for the researcher to identify all of the content in the files under use.
- **Creating the Nodes:** Nvivo facilitates the process of analyzing nodes. Two types of nodes are available: Tree nodes and free nodes. Tree nodes are developed to be employed in this study, as shown in Figure (3).

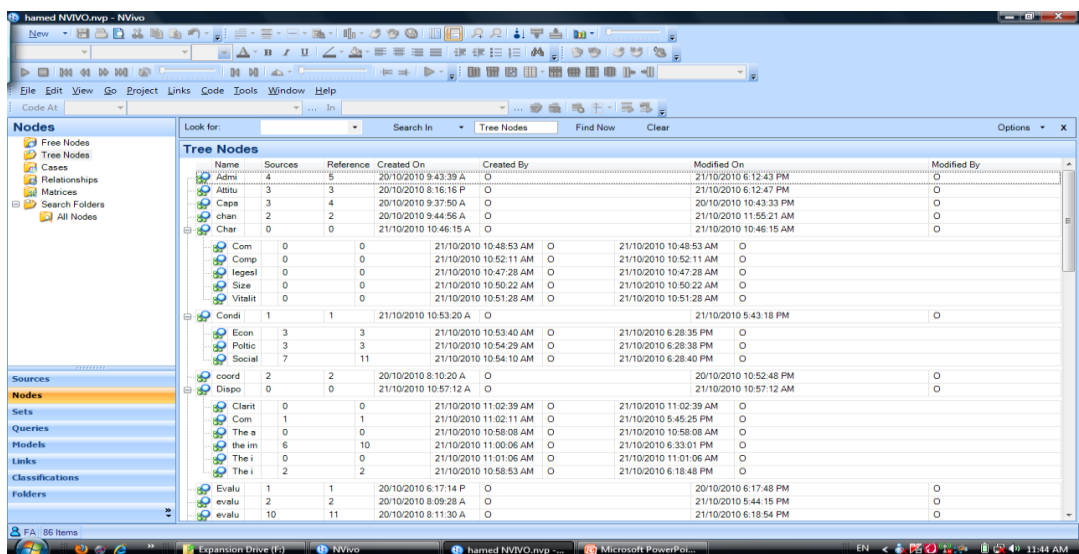


Figure (3): Nvivo Screenshot of the Tree Nodes Appear in the Study.

- **Coding the Data:** The Nvivo coding process paved the way for the researcher to understand the nodes and their interconnectedness. To code the vast array of nodes created, the researcher finds it difficult to make connections between two nodes (Saldaña, 2013). In this step, the researcher must highlight the intended text and connect it to the associated node to create the codes, as illustrated in figure 4.

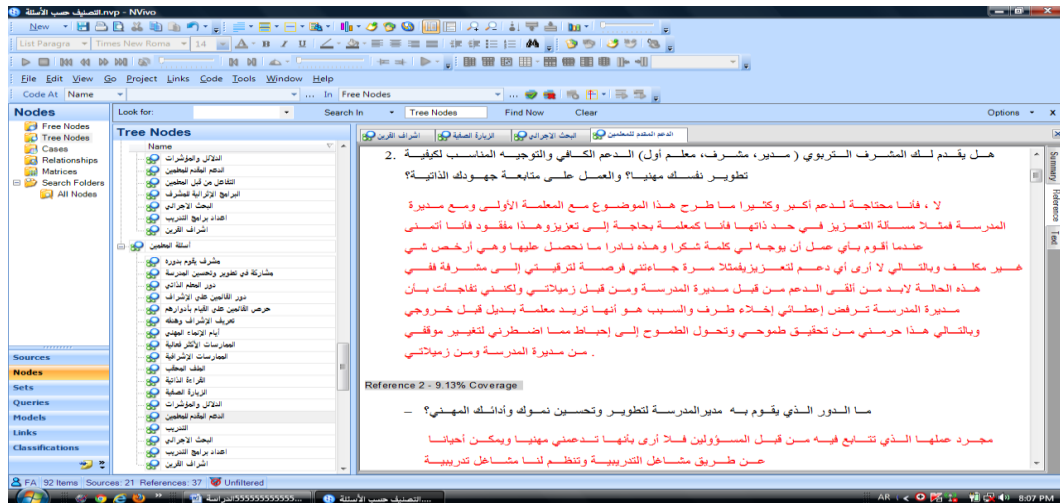


Figure (4): Nvivo Sample of the Coding Process (An Arabic Project).

- **Proceed the Analysis Process:** Bazeley (2007, p. 15) suggests that “further than just code and retrieve in the context of those basic principles of continues analysis, creativity tempered by rigor and care, through documentation and flexibility along with disciplinary awareness”. In this point, the researcher investigates the concepts, creates categories, creates themes, and goes forward with narrating and discoursing. Typically, he or she utilizes numerical data in drawing figures and sketches inferred from the collected data, as shown in figure (5).

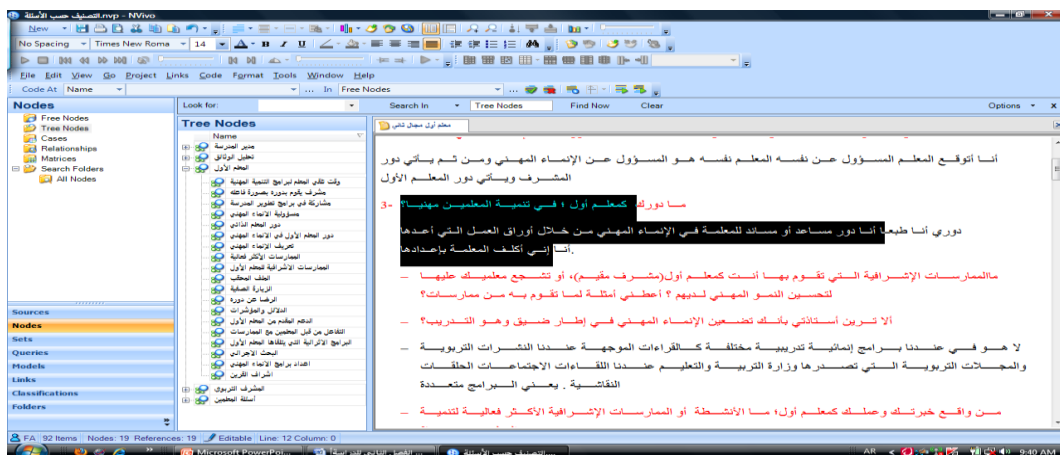


Figure (5): Forward through the Analyzing Process (An Arabic Project).

These procedures enable the researcher to develop concepts and categories, and he/she may use in narrating and discoursing in relation to the topic under investigation. Some data can be illustrated via figures and sketches for clarification, as illustrated in Figure 6.

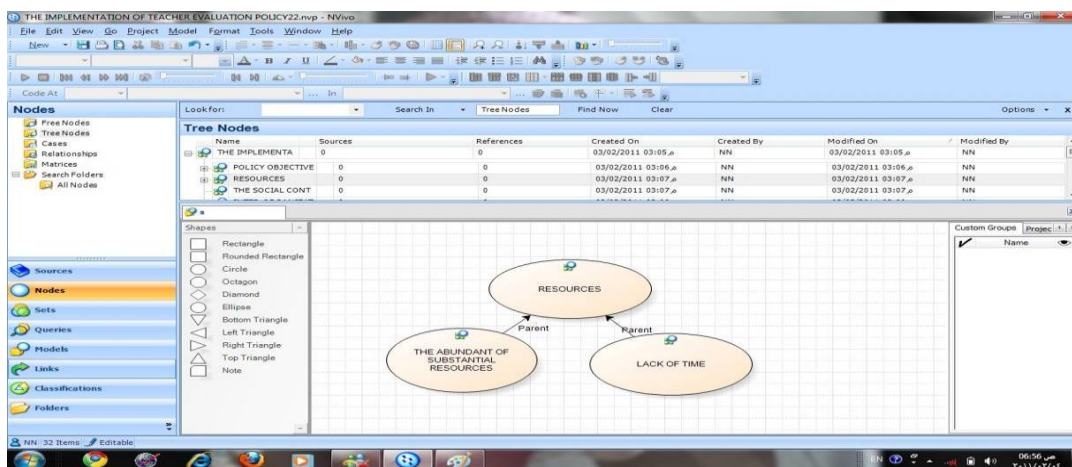


Figure (6): Nvivo Sample of Sketches for Clarification.

Objectives of the study

This study aims to gain a comprehensive understanding of the current state of qualitative data analysis practices among Omani educational researchers. It will achieve this by addressing the following specific objectives:

1. To identify the level of knowledge Omani researchers, possess regarding the qualitative approach to analyzing research data.
2. To determine the level of difficulty Omani researchers, face when employing the qualitative approach in their research.
3. To delve into the lived experiences of Omani researchers as they utilize qualitative data analysis software programs.
4. To explore whether statistically significant differences exist in the use of qualitative data analysis programs by Omani researchers based on factors such as gender, profession, academic qualifications, and potential interactions between these variables.
5. By addressing these objectives, the study aims to shed light on the current strengths and weaknesses of qualitative data analysis practices within the Omani educational research community.

Study Methodology

The study used a survey descriptive approach as it is the right approach for this study and relevant to its questions and objectives. Descriptive research focuses on taking a snapshot of a situation at a specific time, describing who or what is involved, not why things happen. (Creswell, 2014). Surveys are a quick and effective way to gather information from many people, making them ideal for describing a population's traits or beliefs.

Study Population

The study population represents Omani researchers in the academic year 2021-2022 who are (604) students.

Study Sample

The study sample consisted of 234 researchers and academics at various academic institutions in Sultanate of Oman. Table (1) shows the sample distribution as per its demographic variables.

Table (1): Sample Distribution as its Demographic Variables.

| Variables | Categories | N | % |
|-------------------------|----------------|-----|------|
| Gender | Female | 132 | 56.4 |
| | Male | 102 | 43.6 |
| Profession | Academic | 87 | 37.2 |
| | Administrative | 147 | 62.8 |
| Academic qualifications | BA | 51 | 21.8 |
| | MA | 141 | 60.3 |
| | PhD | 42 | 17.9 |

Study Tools

The researchers prepared a questionnaire to measure the degree to which Omani researchers use qualitative data analysis programs. The questionnaire consisted of 30 statements in its initial form. It was reviewed by a group of academics at different Omani universities. The questionnaire was modified as per the reviewers' comments and suggestions. The final form of the questionnaire consisted of 23 statements distributed among three items. The item of "knowledge of the qualitative approach" included 7 statements, the item of "difficulties in using the qualitative approach" included 7 statements, and the item of "experience in quantitative data analysis programs" included 9 statements. The reliability of the questionnaire statements was ensured. Table (2) shows Cronbach's alpha coefficients for reliability values.

Table (2): Cronbach's Alpha Reliability Coefficients.

| Item | Number | Cronbach's alpha coefficients |
|---|--------|-------------------------------|
| Knowledge of the qualitative approach | 7 | 0.878 |
| Difficulties in using the qualitative approach | 7 | 0.825 |
| Experience in quantitative data analysis programs | 9 | 0.852 |
| The whole scale | 23 | 0.892 |

Table (2) shows that Cronbach's alpha value for the questionnaire as a whole was 0.892, which is a high reliability value. In addition, the reliability coefficients of the questionnaire items ranged between 0.825 and 0.878, which are also high reliability values. This means that the questionnaire was reliable and suitable to be applied to the study sample.

Statistical Methods

In order to conduct the study and answer its research questions, the following statistical methods were used:

- Cronbach's alpha coefficient to measure reliability
- Means and standard deviations to answer the first three questions
- Multivariate analysis of variance (Manova) to answer the fourth question

Findings of the Study

Answer to the First Question

To what extent are researchers in Sultanate of Oman aware of the qualitative approach?

Through analyzing the data using SPSS, the mean of the item of "knowledge of the qualitative approach" was 3.63, and the standard deviation was 0.782. This means that Omani researchers have excellent knowledge of the qualitative approach to research data analysis. Table (3) shows the means and standard deviations of the statements of this item.

Table (3): Descriptive Statistics (Means and Standard Deviations) of the Item of “Knowledge of the Qualitative Approach”.

| Items | Mean | Std. Deviation | Rank | Level |
|--|------|----------------|------|--------|
| Mean of the item of “Knowledge of the qualitative approach”. | 3.63 | .782 | = | High |
| I am convinced of the importance of the qualitative approach to research data analysis. | 4.13 | .759 | 1 | High |
| I read about the qualitative approach | 3.81 | .909 | 3 | High |
| I have knowledge of qualitative research data analysis. | 3.47 | 1.024 | 4 | High |
| I attended a training course in qualitative data analysis. | 3.29 | 1.101 | 6 | Medium |
| Qualitative research is very important in solving educational as well as other problems. | 4.08 | .749 | 2 | High |
| I used the qualitative approach in my previous studies. | 3.27 | 1.280 | 7 | Medium |
| I attended a training course in preparing and implementing qualitative data collections tools. | 3.35 | 1.241 | 5 | Medium |

Table (3) shows that the means of the statements of the item "knowledge of the qualitative approach" ranged between 3.27 and 4.13. Four statements had the highest level, the last three statements had a medium level, and the statement "I am convinced of the importance of the qualitative approach to research data analysis" had the highest mean, which was 4.13 at a high level. This shows that the study sample was highly convinced that the qualitative approach is very important in research data analysis. However, this satisfaction seems to be theoretical only because most of the members of the sample have not used this approach in their previous studies, as per the statement "I used the qualitative approach in my previous studies," which had the lowest mean (3.27) at a medium level.

Answer to the Second Question

What are the obstacles facing the researchers in Sultanate of Oman in utilizing the qualitative approach?

Through analyzing the data using SPSS, the mean of the item “Difficulties in using the qualitative approach” was 3.21, and the standard deviation was 0.738. This means that Omani researchers have difficulty using the qualitative approach in research data analysis. Table (4) shows the means and standard deviations of the statements of this item.

Table (4): Descriptive Statistics (Means and Standard Deviations) of the Statements of the Item of “Difficulties in Using the Qualitative Approach”.

| Items | Mean | Std. Deviation | Rank | Level |
|---|------|----------------|------|--------|
| Mean of the item of “Difficulties in using the qualitative approach. | 3.21 | .738 | = | Medium |
| I think that the difficulty of dealing with qualitative data is one of the most common obstacles to using the qualitative approach. | 3.37 | .964 | 1 | Medium |
| Qualitative research requires skills which I don't have. | 3.18 | .999 | 4 | Medium |
| Qualitative research lacks some methodological criteria such as validity and reliability. | 3.08 | .986 | 7 | Medium |
| Qualitative research depends on researchers to a large extent which makes it lack objectivity. | 3.18 | 1.097 | 5 | Medium |
| Experts in qualitative research are rare in academic institutions. | 3.31 | 1.104 | 2 | Medium |
| Qualitative analysis programs are hard to find as they are very expensive. | 3.23 | 1.087 | 3 | Medium |
| Qualitative analysis programs do not support the Arabic language, so I am unable to deal with them fully. | 3.13 | 1.150 | 6 | Medium |

Table (4) shows that the means of the statements of the item “Difficulties in using qualitative data analysis programs” ranged between 3.37 and 3.08, and they are all at a medium level. The statement “I think that the difficulty of dealing with qualitative data is one of the most common obstacles to using the qualitative approach” had the highest mean (3.37), while the statement “Qualitative research lacks some methodological criteria such as validity and reliability” had the lowest mean (3.08).

Answer to the Third Question

To what extent do the researchers in Sultanate of Oman master qualitative analysis software programs?

Through analyzing the data using SPSS, the mean of the item “Experience in using qualitative data analysis programs” was 3.66, and the standard deviation was 0.707. This means that Omani researchers have excellent experience in using qualitative data analysis programs Table (5) shows the means and standard deviations of the statements for this item.

Table (5): Descriptive Statistics (Means and Standard Deviations) of the Statements of the Item of “Experience in Qualitative Data Analysis Programs”.

| Items | Mean | Std. Deviation | Rank | Level |
|---|------|----------------|------|--------|
| Mean of the item of “Experience in qualitative data analysis programs”. | 3.66 | .707 | = | High |
| I can analyse qualitative data manually. | 3.41 | 1.070 | 7 | High |
| I can analyse qualitative data using statistical programs such as Endontes, Atlas, Nvivo. | 3.10 | 1.175 | 8 | Medium |
| I have read qualitative research before in which the researcher used one qualitative data analysis program. | 3.51 | 1.187 | 6 | High |
| I have used one qualitative data analysis program in my studies. | 3.03 | 1.273 | 9 | Medium |
| I think it is important to use one qualitative data analysis program in analysing qualitative data. | 3.85 | .964 | 5 | High |
| Qualitative data analysis programs help researchers organize large data sets. | 4.06 | .854 | 1 | High |
| Qualitative data analysis programs help researchers understand the theoretical framework on which research is based. | 3.96 | .885 | 4 | High |
| Qualitative data analysis programs help researchers represent figures and graphs so that readers can understand them. | 4.04 | .900 | 2 | High |
| Qualitative data analysis programs help researchers write the final report of their research. | 3.97 | 1.002 | 3 | High |

Table (5) shows that the means of the statements of the item “Experience in qualitative data analysis programs” ranged between 4.06 and 3.03, and they are all at a medium level. The statement “Qualitative data analysis programs help researchers represent figures and graphs so that readers can understand them” had the highest mean (4.06), while the statement “I have used one qualitative data analysis program in my studies” had the lowest mean (3.03).

Answer to the Fourth Question

Are there any statistically significant differences at a significance level lower than 0.05 in the levels at which Omani researchers use qualitative data as per the variables of gender, profession, academic qualifications and the interaction among them?

The researchers used Multivariate Tests (Manova) to answer the fourth question of the study. The differences between Omani researchers in the levels at which Omani researchers use qualitative data as per the variables of gender, profession, academic qualifications, and the interaction among them were identified. Table (6) shows the results of this analysis.

Table (6): Results of the Analysis of Multivariate Tests (Manova) in the Levels at which Omani Researchers Use Qualitative Data as per the Variables of Gender, Profession, Academic Qualifications and The Interaction among them were Identified.

| Variable | Value of Wilks' Lambda | F | Hypothesis df | Error df | Sig. |
|---|------------------------|--------------------|---------------|----------|-------|
| Gender | .980 | 1.511 ^b | 3.000 | 220.000 | .213 |
| Profession | .970 | 2.298 ^b | 3.000 | 220.000 | .078 |
| Academic qualifications | .823 | 7.517 ^b | 6.000 | 440.000 | <.001 |
| Academic qualifications * Gender | .869 | 5.312 ^b | 6.000 | 440.000 | <.001 |
| Profession * Gender | .904 | 7.796 ^b | 3.000 | 220.000 | <.001 |
| Profession * Academic qualifications | .934 | 2.560 ^b | 6.000 | 440.000 | .019 |
| Gender * Academic qualifications * Profession | .883 | 4.707 ^b | 6.000 | 440.000 | <.001 |

Table (6) shows the results of the analysis of Multivariate Tests (Manova). There were statistically significant differences at a significance level lower than 0.05 among Omani researchers in the levels of use of qualitative data analysis programs ascribed to the variable of academic qualifications and all the binary and tertiary interactions among the variables of the study (gender, profession, and academic qualifications). However, there were no statistically significant differences at a significance level lower than 0.05 ascribed to gender and profession.

Table (7): Results of the Analysis of Univariate Tests in the Means of the Items of the Questionnaire as per the Variables of Gender, Profession and Academic Qualifications.

| Variable | Source | Sum of Squares | df | Mean Square | F | Sig. |
|--|---|----------------|-----|-------------|--------|-------|
| Knowledge of the qualitative approach | Gender | 1.466 | 1 | 1.466 | 2.960 | .087 |
| | Profession | .392 | 1 | .392 | .792 | .374 |
| | Academic qualifications | 12.956 | 2 | 6.478 | 13.076 | <.001 |
| | Academic qualifications * Gender | 9.183 | 2 | 4.591 | 9.268 | <.001 |
| | Profession * Gender | 8.487 | 1 | 8.487 | 17.132 | <.001 |
| | Academic qualifications * Profession | .045 | 2 | .022 | .045 | .956 |
| | Gender * Academic qualifications * Profession | 1.255 | 2 | .628 | 1.267 | .284 |
| | Error | 109.975 | 222 | .495 | | |
| | Total | | | | | |
| Difficulties in using the qualitative approach | Gender | .484 | 1 | .484 | .984 | .322 |
| | Profession | 2.508 | 1 | 2.508 | 5.105 | .025 |
| | Academic qualifications | 6.016 | 2 | 3.008 | 6.122 | .003 |
| | Academic qualifications * Gender | 1.881 | 2 | .940 | 1.914 | .150 |
| | Profession * Gender | .593 | 1 | .593 | 1.206 | .273 |
| | Academic qualifications * Profession | 5.833 | 2 | 2.917 | 5.936 | .003 |
| | Gender * Academic qualifications * Profession | 8.539 | 2 | 4.269 | 8.689 | <.001 |
| | Error | 109.077 | 222 | .491 | | |
| | Total | | | | | |
| Experience in using qualitative data analysis programs | Gender | .427 | 1 | .427 | 1.028 | .312 |
| | Profession | .001 | 1 | .001 | .002 | .963 |
| | Academic qualifications | 2.745 | 2 | 1.373 | 3.305 | .039 |
| | Academic qualifications * Gender | 7.712 | 2 | 3.856 | 9.283 | <.001 |
| | Profession * Gender | .368 | 1 | .368 | .886 | .348 |
| | Academic qualifications * Profession | 1.829 | 2 | .914 | 2.201 | .113 |
| | Gender * Academic qualifications * Profession | .773 | 2 | .387 | .931 | .396 |
| | Error | 92.218 | 222 | .415 | | |
| | Total | | | | | |

The results in Table (7) show statistically significant differences at a significance level lower than 0,05 between the means of the item of Omani researchers' "Knowledge of the qualitative approach" ascribed to the variable of academic qualifications. Through reviewing the means and the results of the Scheffe test, it was clear that there were differences between the researchers with a PhD degree and those with a BA and an MA in favor of those with a PhD degree every time. The mean of PhD holders was 4.09, while the means of BA and MA holders were 3.54 and 3.50, respectively. This finding is in line with reality, as PhD holders are the most prolific researchers with a research record. So, the chance of their knowledge of the qualitative approach being high is high, in addition to the fact that they have gone through all the educational stages that necessitate their familiarity with various research approaches (quantitative and qualitative) that they have used in their research studies. Besides, there were statistically significant differences at a significance level lower than 0.05 between the means of Omani researchers' "knowledge of the qualitative approach" ascribed to the interaction between both genders and between academic qualifications and profession.

As for the item of "difficulties in using the qualitative approach", there were statistically significant differences at a significance level lower than 0.05 between the researchers' means in this item ascribed to profession and academic qualifications and the interaction between them and the tertiary interaction between the three variables (gender, profession, academic qualifications). As for the differences that were ascribed to academic qualifications as per the results of the Scheffe test, they were related to BA and MA holders and in favor of BA holders. The mean of the BA holders was 3.48, while the mean of the MA holders in the above item was 3.12. As for the variable of profession, the results of the Scheffe test indicated that the differences were in favor of the academics compared to the administrative staff, and the means were 3.12 and 3.24, respectively.

With regard to the item of "experience in using qualitative data analysis programs", the results showed statistically significant differences at a significance level lower than 0.05 between the researchers' means in this item ascribed to academic qualifications and its interaction with gender only. Through reviewing the results of the Scheffe test, it was found that the differences were between the researchers holders (MA and PhD) in favor of the PhD holders, as their mean was 3.93, while the mean of the MA holders was only 3.55.

Recommendations

Based on the findings that were arrived at, the following recommendations can be made:

- BA and MA students should be made aware of the importance of the qualitative approach and its uses in research studies;
- Research methodology courses for university students should be reinforced with a specific unit about the qualitative approach, its methods and uses;
- Researchers should be encouraged to use the qualitative approach in their various studies;
- Studies on the extent to which each program uses the qualitative approach should be conducted.

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