The use and value of Q-Methodology in employee retention research

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Keywords	Abstract
Q-Methodology; Q-Advantages; Q-Methodology value; Employee retention.	In social sciences, understanding human subjectivity has always presented a complex challenge. Traditional quantitative methods often struggle to capture individuals' nuanced perspectives, opinions, and attitudes. In research, the convergence of qualitative depth and quantitative precision sometimes necessitates using novel methodologies. This article explores the application and significance of Q-methodology as a powerful methodology for understanding varied human viewpoints. It illustrates how Q-methodology enriches research attempts by capturing the interplay of subjectivity and data and examining the benefits and drawbacks of its application in the analysis of employee retention dynamics. The inherent advantages and potential disadvantages of using Q-methodology are uncovered.

1. Introduction

Employee retention is a significant challenge for businesses around the world. To get a thorough understanding of the multiple aspects influencing retention, researchers are increasingly resorting to traditional methodologies. This article validates Q-methodology as a research strategy and investigates its utility in the context of employee retention research. Q-Methodology is a dynamic research paradigm that examines subjectivity and perspective. Q-Methodology has been utilised in a variety of study fields, including healthcare (Paige et al., 2015; Stenner et al., 2015), education (Petit, 2013; Ha, 2016), business (Van Exel & De Graaf, 2005), transportation (Van Exel et al., 2011), and environment and agriculture (Davies & Hodge, 2012).

This article discusses how Q-methodology can help bridge the gap between qualitative depth and quantitative rigour. By weighing the benefits and drawbacks of this technique, one may unearth the unique benefits and challenges that Q-methodology brings to research.

2.   Background

The study was conducted in 12 different organisations in Namibia, first with 280 participants for the quantitative part, where surveys were distributed to randomly selected respondents. Additional qualitative data was acquired from 10 key informants using the Q-method to supplement the questionnaire data. Human Resources Practitioners and senior officers in the organisations were targeted for Q-interviews. With the help of the Statistical Program for Social Sciences (SPSS) and Q-factor analysis, data were analysed using qualitative and quantitative methodologies.

3.   The Q-Methodology

William Stephenson, a psychologist and physicist, created the Q-Methodology in the 1930s, a methodical strategy for exploring and analysing subjective opinions (Watts & Stenner, 2005). This method bridges the gap between qualitative and quantitative research by offering a formal framework for investigating individuals' subjective experiences. The primary purpose of Q-methodology is to identify patterns of participants' ideas and attitudes. Even though more academics are becoming aware of the immense potential of Q-methodology, unfortunately, Q is not often used in academic research (Rodl et al., 2020).

There are still some debates about whether Q-methodology is qualitative or quantitative. For example, Slaughter et al. (2019) assert that the Q-method is exploratory and qualitative and that it is qualitative in expression because it does not require a large number of people. Its goal is to emphasise the significance of each participant's perspective rather than generalising the results. Nonetheless, Yang (2016) and Churruca et al. (2021) view Q-methodology as a mixed approach that effectively examines thought patterns on any issue using both qualitative analyses of individual viewpoints and quantitative statistical analysis. Correspondingly, Newman and Ramlo (2010) indicated that Q-methodology exhibits many of the traits of mixed method research methodologies when sharing many of the objectives of qualitative research while using the kinds of statistical analyses generally used in quantitative studies. Q-methodology is a research methodology that combines quantitative and qualitative elements to delve into subjective opinions and find sentiment and opinion trends. Its ability to dive into complex phenomena by drawing on individual views distinguishes itself. A significant component of Q-methodology, the Q-Sort Grid, allows participants to rank statements based on their beliefs, allowing researchers to find distinct elements influencing employee retention decisions. In the study, the researchers employed Q-methodology as a qualitative technique based on the definition

provided by Slaughter et al. (2019). Although other researchers view Q-methodology as a qualitative method, from the recent study conducted, the authors view Q-methodology as a mixed method because Q-methodology, or simply Q, is a method that enables researchers to identify, both quantitatively and qualitatively, the different opinions within a group and the number of people within the group who hold these opinions.

4.   The value of Q-Methodology

The significant usefulness of Q-methodology, a dynamic union of qualitative and quantitative research, extends beyond the confines of specific projects. Its fundamental value provides researchers with a revolutionary instrument for uncovering subjective complexities, seeing hidden patterns, and crafting holistic insights. The researchers discovered the following Q-methodology values:

- Deep Subjectivity assessment: Q-methodology allows researchers to delve into the rich realm of individual opinions, comprehensively assessing the human dimension in employee retention.

- Pattern identification: By identifying factors that underpin participant perceptions, Q-methodology reveals fundamental patterns that traditional research methodologies may overlook.

- Comprehensive understanding: Combining qualitative and quantitative criteria provides a comprehensive picture of the subject understudy beyond numbers.

- Participant engagement: The Q-Sort exercise engages participants, allowing researchers to gain insights into their thought processes and motivations.

- Personalised insights: Q-methodology values individuality by giving insights tailored to distinct perspectives and experiences.

- Exemplifying value through Q-Application: Q-methodology proved to be an effective instrument in the study. The researchers used the method in the study to uncover eight parameters that influence employee retention. These encompass recruitment and selection, rewards and recognition, generational differences, succession planning, work-life balance, career growth, performance management, and talent management. The study's results demonstrate how the value of Q-methodology extends beyond theoretical notions to practical insights. It is critical to note that the process and steps for conducting a Q study are essentially the same whether it is conducted face-to-face or online.

Respondent numbers in Q studies are typically relatively low because the statistical analysis does not require many respondents (McKeown & Thomas, 1988). A bell-shaped layout enables respondents to order the statements sequentially based on their points of view (See Figure 1 below). Furthermore, it forces participants to make decisions by providing fewer spaces at the extremes (similar to an Agree/Disagree Likert Scale) but more places for more neutral responses (Wright, 2013). After

completing the Q sort, the respondents' grids were saved for further analysis. An interview with participants was undertaken to conclude the data collection phase of the Q study.

Q-methodology has proven to be the most efficient method for studying qualitative and quantitative experience components, such as attitudes or impressions. The method comprises two basic components: a) Q sorting and Q factor analysis, and b) the ability to investigate objective and subjective issues concurrently. Q-methodology has been used in research on healthcare, business, marketing, political science, and environmental science (Brown, 1993).

4.1   The Q-Sort Grid: Unveiling Subjectivity

Q-methodology has motivated researchers to be more open to uncertainty, value subjectivity, and access the output with wonder and surprise. As we reflect on the Q-methodology journey, the researchers are reminded of its significant impact on broadening and deepening research knowledge. It opened doors to investigating the breadth and variety of human experiences.

The Q-Sort Grid, an instrument developed to elicit and categorise respondents' perspectives, is at the heart of Q-methodology. This grid comprises a series of statements or items representing a range of viewpoints on a specific topic. Respondents are then asked to arrange these items along a scale, which typically ranges from "strongly disagree" to "strongly agree." Unlike traditional Likert Scales, the Q-Sort Grid allows respondents to express their thoughts in greater depth, allowing for more intricate insights. Thus, they can act like participants in a qualitative study by giving their opinions.

4.2   Benefits and applications

- Subjectivity in research: Q-methodology enables researchers to capture the nuances of subjective experiences. This is especially useful in domains such as psychology, sociology, and market research, where understanding individual views is critical.

- Identifying patterns: Using factor analysis, researchers can identify groups of participants with similar viewpoints. These clusters reveal latent patterns of attitudes and beliefs that would otherwise go unnoticed by traditional surveys or interviews.

- Exploring diverse points of view: The Q-Sort Grid is open to a wide range of viewpoints, allowing researchers to investigate the variety of perspectives within a single setting. This openness is essential for investigations with multidimensional social concerns.

- Program Evaluation: Q-methodology is helpful for analysing program or intervention efficacy from the respondents' perspective. The method provides vital feedback for improving and refining interventions.

5.   How to do a Q-Methodology study

Conducting a Q study begins with formulating a research question, which serves as the focal point for gathering all relevant information on the issue; this is known as the concourse in Q-methodology. The concourse should be compiled from all accessible sources, including published literature, public conversations, questionnaires, interviews, and media (Paige & Morin, 2016). Then, statements are generated from the concourse, known as the Q set, and are supplied to participants when performing the Q sort. The Q-sort refers to the activity in which participants rank the statements. The researcher should cover all parts of the studied issue as accurately as possible while generating the Q sample, presenting the participants with a clear and thorough representation with no gaps or overlaps (Watts & Stenner, 2012).

The Q study respondents are then chosen; in Q-methodology, they are referred to as the P set. There must be enough respondents in the P set to undertake factor analysis, which allows for comparing, contrasting, and analysing opinions (Van Exel & De Graaf, 2005).

To conduct a Q study, an appropriate set of statements originating from the concourse around the issue under discussion is required, as these constitute the essence of the subjectivity that will later emerge through the sorting of statements by the respondents. Stephenson proposed that the statements employed in Q-methodology be representative of the problem, such that there are assertions on which people can agree or disagree. The statements should come from various perspectives and address as many sub-issues within the topic as possible, allowing participants to express their opinions thoroughly. The statements have no meaning unless they are arranged by the respondents (Watts & Stenner, 2005).

The concourse produces statements. This means that they will be derived through interviews with persons involved, relevant material, or even requests for statements from those involved, such as children, teachers, and parents, in various methods. If the interview methodology is employed, some persons who will complete the Q-sort must serve as interviewees to ensure their perspectives are heard. The interview should be captured on audiotape and transcribed verbatim. The researcher should then review the interviews, identifying potential assertions until all options are exhausted.

These should then be separated into various interest categories: anxiousness, confidence, ability, etc. Instead of conducting interviews or reviewing literature, asking participants for written opinions on a topic is feasible. These responses may be recorded on cards, emailed, or collected during a focus group session. These statements can also combine two or more of the ways outlined above.

After all feasible statements are generated, they must be organised into categories and subcategories. The categories exist merely to ensure that all facets of the topic of interest to the participants and researchers have been addressed and that the statements do not favour one component over another. After establishing the categories, the statements must be examined for duplication, with one of the duplicated claims maintained and the rest eliminated. Because individuals are encouraged to interpret words differently, ambiguity is not an issue. One participant may see one interpretation of what is said, while another may see another. A pilot study is essential for assessing participants' ease in sorting statements and their grasp of statement meanings. During the sorting process, participants place the resulting statements on a Q-grid.

The respondents' subjectivity is seen when the statements are sorted. This is accomplished by providing the respondents with the 'terms of reference' for sorting, such as most agreed/least agreed or most like me/least like me and instructing them to choose the most relevant statements to their point of view. Because of the Q-grid's format, the statements with the highest meaning are placed at the Q-grid's far ends (Strongly agreed and strongly disagreed). The Q-grid contains fewer rows at the far ends than the neutral column, and the pattern is symmetrical in the sense that if there is one row under the +5 column, there is one row under the -5 column, and so on, with the bulk of rows falling under the '0' column indicating the neutral view.

Because the grid's distribution often varies from strongly disagree to strongly agree, Q-methodology is comparable to the Likert Survey Scale. However, Q surveys are different from Likert Scale surveys in that respondents physically arrange items in a normalised or Gaussian distribution according to their opinions in a specific environment or the condition of instruction (Brown, 1980; Ramlo, 2008; Ramlo & Nicholas, 2009), like the grid shown in Figure 1 below.

As a result, if a Q-set has 58 statements, as in the case of the researchers' study, the Q-grid will resemble the Q-grid depicted in Figure 1. Once the statements have been generated, they are referred to as the Q-set and are typically placed on cards for respondents to sort. Respondents are instructed to make three piles of statements initially: those with which they agree, those with which they disagree, and those with which they feel reasonably neutral. Beginning at one end of the Q-grid, they are asked to choose the number of statements needed to fill the most extreme column beneath the +5 column if they strongly agree with this statement.

The respondents continued to place the statements on the grid based on their agreement with the statement. They made their way to the opposite end of the grid by filling all columns with statements until all "agreed with" statements were finished.
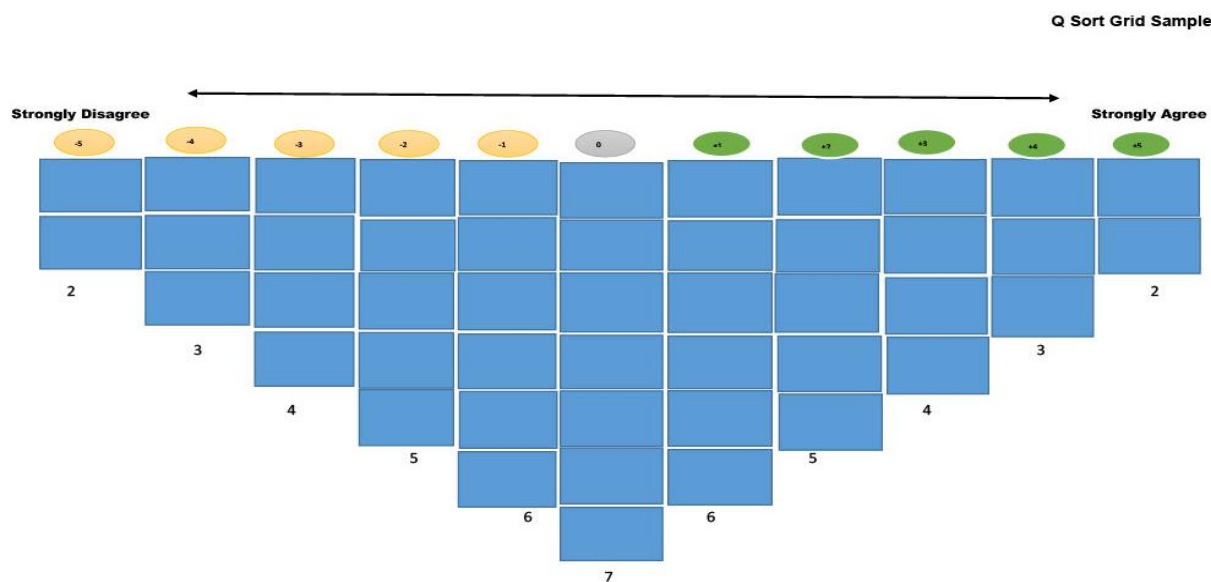
Q Sort Grid Sample

Figure 1: An example of a Q-grid

The same procedure is used for the statements with which the participants most disagreed. These are placed under the -5 column and oppositely positioned on the grid as the agreed-upon statements. The neutral statements are inserted into the blank spaces under 0.

When all statements have been placed on the Q-grid, and the respondents are satisfied with their sorting, this is known as the Q-sort; each respondent's Q-sort reflects their viewpoint. The completed Q-sort is then correlated with the Q-sorts of the other respondents before being factor-analysed. After people have ranked these statements, a factor analysis can be performed to uncover similar orders of rating by people.

Analysis and interpretation are the final stages of the Q research. The results from the Q sort activity are analysed using specialist software programs such as Ken-Q and PQ Method, which are widely recommended for analysing the data of a Q study (Wright, 2013). The factor analysis can be done using a free application accessible from the Q method page (PQMethod 2.11). The manual (also available on the Q method page) contains the program's instructions. As secondary data to the Q-sort analysis, the qualitative data from the post-sort interviews are regarded as additional data to inform and aid interpretation. The factor analysis will reveal commonalities in how the respondents sorted the statements. The factor analysis considers the overall image of how the statements were sorted (ranked), and this overall sorting of claims is examined. Respondents who score items similarly will load heavily on the same component, exhibiting a pattern of statements that indicate their subjective beliefs.

As a result, the factor analysis procedure (as done using the available software options such as PQMethod 2.11, will reveal the number of respondents who reflect the sorting of statements shared by

each factor. If numerous people have similar opinions (and have placed their remarks in comparable positions on the Q-grid), they will all load on the same factor. Although the computer program rotates the factors, there may be a practical or theoretical need to rotate the factors further manually; nevertheless, this should not be done randomly and only when necessary. In her doctoral thesis, Lubinda (2023) recommended further exploration of the use of Q-methodology in employee retention research as she believes that further investigation of this methodology in studies on employee retention may offer insightful information about employee attitudes and viewpoints.

5.1   Initial Qualitative Data Collection (Questionnaires)

The final portion of the survey was composed of questions that the researcher deliberately left open-ended, giving participants more freedom to provide additional optional answers as needed. The following are the non-structured questions which formed part of the questionnaire:

a)   Apart from what has been discussed, what is your opinion about why employees leave the organisation?

b)   In addition to the measures already mentioned, in your view, what can be done to ensure that key employees are not lost in organisations?

c)   If you were in the position to ensure that key skills and expertise are not lost but instead transferred within an organisation, what would you do, and how would you do it?

d)   If you were to quit tomorrow, what would your reason be?

5.2   Qualitative data analysis

The researcher employed qualitative analysis to scrutinise responses to open-ended questions and comments provided on questionnaire items. Here, the non-structured questions in the questionnaire were analysed using NVivo 11, and the recurring themes were systematically arranged. A thematic approach was used throughout the manual data analysis process to infer and identify terms and phrases related to the research problem. The researcher used the text query search feature of NVivo 11 software to create a word cloud and comprehend the words (Hatcher, 2017). NVivo's word count feature was thus used to identify the most frequent answers.

Four themes emerged after conducting a thematic analysis of the four non-structured items in the questionnaire. The first significant theme the analysis uncovered was reasons for quitting. This theme included the following ten factors, which the participants believed to be the primary explanations for why the majority of workers quit their jobs: a) low pay, b) lack of appreciation and recognition, c) lack of career growth, d) bias and discrimination during promotions, e) poor work-life balance, f) non-supportive leadership, g) micro-management, h) feeling disrespected at work, I) not enough flexibility and j) feeling over-stressed due to work overload.

The study revealed that keeping key personnel on board was the second theme. Certain key personnel may inevitably leave the organisation sooner than one would like. By employing specific strategies to retain them, management may at least make the choice harder. What would assist in keeping important staff on board, according to most research participants? a) Developing an employee retention strategy, b) recognising and appreciating their performance, c) providing them with competitive salaries and benefits, d) providing growth opportunities internally, e) promoting work-life balance, f) not micro-managing people, g) offering long-serving employee rewards, h) investing in employees professional growth and development, I) offering non-tangible benefits and j) being respectful and honest to them.

The transfer and retention of skills was the third study theme. The participants were asked what could be done to ensure that the critical skills are maintained and passed down in organisations. The ten elements listed below are the ones that participants most commonly mentioned: a) develop a skills audit plan, b) identify employees with required skills, c) succession plan, d) identify to whom the skills should be transferred, e) document the tacit and explicit knowledge, f) introduce understudy at work, g) introduce peer mentoring activities, h) introduce cross-training, i) introduce job rotation and j) mentor and coach employees.

Reasons for quitting immediately rounded out the fourth and final theme. The answers revealed: a) looking for higher salaries, b) searching for growth and career advancement, c) lack of work-life balance, d) feeling undervalued, e) toxic working environment, f) looking for greener pastures, g) looking for better opportunities, h) feeling underappreciated, i) seeking new challenges and j) poor leadership styles, were the ten explanations that participants most frequently mentioned as reasons why they might quit their jobs right away.

5.3 Qualitative Data Collection Using Q-Methodology

The main research question for this study was: *What are the current employee retention policies in Namibian government ministries and state-owned enterprises that can influence employee retention across Namibia's public sector?* The Q approach was very helpful in answering the research question on the current employee retention policies in Namibian government ministries and state-owned firms and their impact on retention throughout the public sector. Using the Q approach, the researcher sampled individuals from various departments and levels within these entities, as well as pertinent stakeholders, to identify a variety of viewpoints on retention policies. The researcher got information about the relative relevance and perceived efficacy of different retention tactics by using participant preferences to rank policies. Using this method helped the researcher comprehend the priorities and preferences of stakeholders, which helped formulate evidence-based policy proposals suited to the needs of workers

and tackle issues within the public sector. In general, the Q technique offered a strong foundation for investigating the intricacies of staff retention policies and formulating focused strategies to improve retention in Namibia's state-owned businesses and governmental establishments.
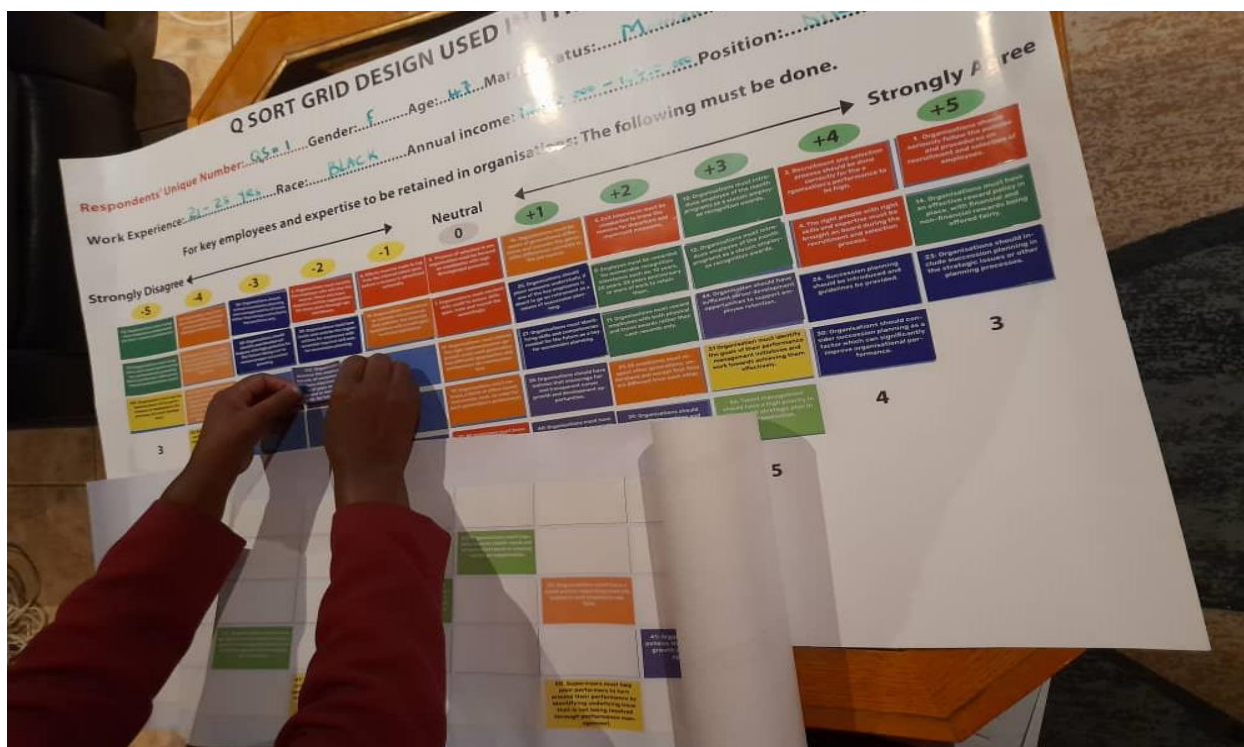
Figure 2 One of the respondents sorting statements on the Q-Sort Grid

The above picture illustrates how respondents were asked to arrange a set of text statements on a 58-position quasi-normal distribution grid, with the most acceptable statements on the right, the least agreeable statements on the left, and neutral statements in the middle.

6.   A discussion of the qualitative results: Q-methodology

The study employed the Q-sort approach to guarantee the accuracy of the survey data. The items were derived from the questionnaires based on observations of the factors influencing employee retention. Eight factors emerged from this study as follows: a) Recruitment and Selection, b) Rewards and recognition, c) Generational differences, d) Succession Planning, e) Work-life balance, f) Career Growth, g) Performance Management and h) Talent Management.

A sample of ten respondents was selected. Each was given a customised Q-sort tool, which was used to gather information from 58 statements.

Eight important characteristics mostly selected in the Q-Methodology:

Table 1: The statements that participants strongly agreed with

Statement	Rank Score
q23. Organisations should include succession planning in the strategic issues or other planning processes.	+5
q14 Organisations must have an effective reward policy in place, with financial and non-financial rewards being offered fairly.	+5
q1. Organisations should seriously follow the policies and procedures on recruitment and selection of employees.	+5

Q14 and q23 had the highest ratings, as seen in the above table, with seven respondents rating them as strongly agreed with the statements (a value of +5). Q1 came in second with six respondents rating it as strongly agreed with.

Table 2: The statements that respondents strongly disagreed with

Statement	Rank Score
q15. Organisations must recognise and reward performances by automatically promoting best performers when promotional posts become vacant.	-5
q48: Organisation must use the assessments of the performance of employees in the process of career development.	-5
q10: Organisations must recognise employees based on their results and behaviours.	-5

As seen above, q10, q15, and q48 are the three statements that the participants strongly disagreed with, and they each received seven ratings of -5.

Table 3: The statements that respondents were undecided on (Neutral)

Statement	Rank Score

q58. Managers must develop existing talent to improve performance in

current roles and improve employee readiness to move to

 the next level. 0

q7. Organisations must conduct skills audits to assess skills

gaps and train and recruit them accordingly. 0

q22: All employees must know that each generation has

wants, needs, values and different ways of working. 0

q32: Organisations must offer flexible work arrangements when

 appropriate. 0

q17: Organisations must choose the right communication approach

 since each generation has different approaches and preferences

for communication. 0

q2: The process of selection in any organisation must be focused on

candidates with high development potential. 0

q46: Performance goals should be developed in collaboration

between employees and supervisors. 0

q19: Organisations must embrace a blend of office-based and

 remote work to cater for each generation's preferences. 0

There was a need to narrow down the characteristics and get an order among them. Understanding the relative importance and efficacy of various staff retention strategies within Namibian government ministries and state-owned enterprises required reducing the features and sorting them in a particular order. By ranking these attributes, the researchers determined which policies were thought to have the greatest impact on employee retention in the public sector. The Q-method's results gave important information on the priorities and preferences of stakeholders about retention policies. The study's conclusions determined the precise attributes and their relative importance. However, the top-ranked feature stands for the approach or policy respondents believed most important for retaining employees in the Namibian public sector.

7.   Distinctive characteristics of Q-Methodology

7.1   Research hypothesis

In Q research, the research hypothesis is not required. A hypothesis expresses the researcher's point of view and what they expect the investigation to confirm or disprove. Because Q-methodology is based

on each respondent's viewpoint rather than the researcher's, each response is accepted as valid and a vital source of information in the research.

7.2   Population and sample

In traditional research methodology, the population refers to the group of persons to whom the study's findings can be applied. In Q-methodology, the population is the complete group of people from which the sample is drawn. This is the broader group in which the researcher is most interested. Depending on the research issue and the scope of the study, the population may differ. For example, if you want to research employees' viewpoints on a particular policy, the population would be all employees affected by that policy.

In traditional qualitative research methodology, the sample refers to the participants in the study. The sample does not need to be picked at random from the population. In Q-methodology, the sample is a subset of the population chosen for study participation. Unlike typical quantitative research methods, which frequently use random sampling to generalise findings to a larger population, Q-methodology focuses on individuals' distinct subjective perspectives. As a result, the sample selection process is deliberate, frequently involving selecting a varied group of people who may represent various opinions on the issue of interest. People are frequently picked for research because they have specific relevance to the issue or possess strong opinions about the topics of interest. Furthermore, the sample size is limited, and it is not uncommon to have one detailed case study. The emphasis is on an in-depth analysis of a small number of situations rather than on a superficial analysis. Therefore, the population and sample in Q-methodology are not as strictly specified as in quantitative research.

7.3   Generalisation

The generalisability of research findings extends beyond the study participants. The generalisation of research data obtained through Q-methodology is limited and not intended. Most Q-methodology research is exploratory, with no emphasis on random sample design. The goal is to discover genuine and valid opinions, conduct in-depth studies, and then categorise them. Once particular groups of opinions have been discovered, the prevalence and distribution of those opinions in a population can be determined by large-scale surveys.

Q-methodology has been used in diverse study areas. However, because it is uncommon or novel in a particular subject or publication, it is commonly introduced as a new research methodology in a wide range of academic works. Q-methodology is underutilised partly due to misunderstandings about its applicability and the inaccessibility of mainstream data collection and processing tools.

Despite its origins 80 years ago, Q-methodology was mostly unknown for an extended period (Hughes, 2012). In the last 20 years, it has been adopted in several countries, including the United States and the

United Kingdom. As a result, many books and papers on Q-methodology have been published in various sectors (Watts, 2012).

7.4   Advantages of Q-Methodology

According to Rieber (2020), the benefits of employing Q-methodology include the capacity to uncover subtleties in respondents' opinions that traditional study methodologies may miss. Furthermore, interactive Q-sorting often appeals to respondents and can provide more trustworthy findings. Some of the methodology's key benefits include its established position as an intrinsically mixed methodology (Ramlo, 2020), the ability to examine minority voices (Pole et al., 2015), and the ability to undertake participatory research (Militello et al., 2016). Additionally, the following are some of Q-methodology's advantages:

- Subjective Depth: Q-methodology feeds on various subjective experiences, exposing the various layers of employee retention perspectives.
- Factor Emergence: By studying participant ranks, researchers can identify underlying factors influencing employee retention, providing a thorough knowledge of this complex issue.
- Participant engagement: The Q-Sort Grid engages users, allowing for a deeper exploration of their thought processes and decision-making rationale.
- Inclusivity: This methodology allows for a wide range of perspectives, ensuring that the complicated web of employee retention is thoroughly examined.
- Holistic Exploration: Q-methodology allows for a comprehensive examination of employee retention, incorporating qualitative and quantitative variables.
- Nuanced Insights: Q-methodology provides a structured yet nuanced way to understand subjectivity, bridging the qualitative-quantitative divide.
- Pattern Recognition: Using factor analysis, Q-methodology enables researchers to find patterns and clusters of opinions that may not be apparent in pure qualitative or quantitative methodologies.
- Combining Methods: Q-methodology bridges the gap between qualitative and quantitative research, providing the advantages of each. This allows researchers to collect rich qualitative data in a structured and analysable manner.
- Diverse Points of View: The Q-Sort Grid allows for a wide range of perspectives, allowing academics to investigate diversity within a specific setting.

7.5   Disadvantages of Q-Methodology

- Complex Analysis: Analysing Q-Sort data takes statistical expertise, and more can be involved than typical qualitative analysis.

- Subjectivity in Interpretation: Despite the organised steps of Q-methodology, interpreting factor patterns and themes entails some subjectivity.

- Limited Sample Size: Q-methodology frequently uses a smaller sample size, which may limit the generalisability of results.

7.6 Challenges of utilising Q-Methodology

- Sample Size: Using Q-methodology may demand a smaller sample size to ensure solid results, perhaps posing data collection issues.

- Complex Analysis: Analysing Q-sort data requires skills in factor analysis, which may be challenging for researchers new to this statistical methodology.

- Subjectivity and bias: Result interpretation is fundamentally subjective and impacted by the researcher's perspective, potentially introducing biases.

- Time and Materials: The Q-Sort Grid exercise and subsequent data processing might be time-consuming, affecting the entire research timetable.

- Burden of Participation: Participating in the Q-sort exercise might be difficult because it requires respondents to analyse and rank many statements.

While Q-methodology has several shortcomings, particularly in data analysis and interpretation, the personal development it brings to researchers certainly outweighs these drawbacks.

8. Conclusion

Q-methodology gives researchers a unique perspective for comprehending and dissecting subjective experiences, attitudes, and opinions. This methodology, which encourages respondents to express their opinions meticulously nuancedly, reveals trends frequently masked by traditional research methodologies. Despite the challenges, diving into human subjectivity across areas ranging from social sciences to market research highlights the importance of the methodology. Q-methodology remains vital for unravelling the complicated tapestry of human viewpoints as technical and research methodologies evolve. This paper contributes to a better knowledge of Q-methodology's significance in research across varied domains by providing a grasp of the methodology's limitations, strengths, and recommendations for improved implementation.

Q-methodology has enormous potential for improving our understanding of complex phenomena. Despite its limitations, this methodology's advantages in providing subjective insights, identifying determinants, and encouraging participant interaction make it a promising option for future research.

Recommendations

Based on the findings, the authors recommend the following for the use and importance of Q-methodology:

a) Developing Q-methodology study reporting guidelines: Guidelines must be created and promoted for Q-methodology investigations. These guidelines should outline the fundamental components of study design, Q-sort statement construction, data collection processes, factor analysis techniques, and interpretation methods. This will improve the consistency and transparency of reporting across studies.

b) Capacity Building: Training seminars and resources should be provided for new Q-methodology researchers. Advice on statement construction, data collection, and analytic methodologies will help raise the standard for research processes.

c) Validation Workshops: Validation workshops or conferences should be held where researchers can share their Q-methodology findings for peer validation and feedback. This platform can promote collaboration, critical thinking, and methodological consistency improvement.

d) Open-access statement libraries: Open-access archives of Q-sort statements used in diverse investigations should be established. This way, researchers can share their verified statement sets with others, allowing them to be accessed, adapted, and expanded upon for future research.

e) Interdisciplinary collaboration: Interdisciplinary collaboration between Q-methodology scholars and those from other disciplines should be encouraged. This collaboration can improve research methods and assure methodological validity in various scenarios.

f) Resource Sharing: Researchers should be encouraged to exchange resources, including Q-sort statement sets, analytical scripts, and validation procedures. This collaborative methodology may help to strengthen the foundation for Q-methodology research.

g) Ethical issues: The relevance of ethical issues in Q-methodology studies, notably regarding participant consent, privacy, and data security, should be stressed. Addressing ethical considerations strengthens the legitimacy of the study findings.

These recommendations aim to increase the impact, quality, and transparency of Q-methodology research by addressing methodological obstacles, encouraging collaboration, and fostering continual improvement within the research community.

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