Using Mixed Methods to Understand Tax Compliance Behaviour

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Abstract: Mixed methods research is not commonly adopted by researchers studying tax compliance behaviour despite the benefits that it can bring to research in this area. This is a method that is generally associated with social sciences however, this emergent methodology is being increasingly applied in disciplines that are traditionally associated with quantitative research, including in tax compliance research. Despite the growing trend in applying mixed methods to tax compliance research, there are no known studies that have summarised this methodological approach for researchers and provide guidance on how mixing research methods can allow for an in-depth view of tax compliance behaviour. The purpose of this article is first, to briefly explain mixed methods research for novice and established researchers unfamiliar with this methodological approach; second, provide an overview of the use of mixed methods in tax compliance research; third, provide an example of using mixed methods in order to illustrate a practical application of mixed methods; fourth, to discuss the value gained in applying mixed methods to examine and understand the effect of reciprocity nudges on tax compliance behaviour as well how challenges in applying mixed methods research can be faced. This article contributes to the business and management methodological literature by summarising the implementation of this approach and how studies aimed at understanding tax compliance behaviour could be enriched by embracing a mixed methods approach.

Keywords: Mixed methods, Tax compliance behaviour, Content analysis, Experiment

1.   Introduction

Qualitative research approaches and quantitative research approaches are often seen as two separate and opposing ways of undertaking research. This view is due to the preconceived association of positivist paradigms with the quantitative methods and the interpretivist and constructivist paradigms with qualitative methods (Onwuegbuzie and Leech, 2005). The introduction of a mixed methods approach to research addresses this apparent divide between these two approaches. The mixed methods approach allows for a holistic understanding of complex research problems and encourages a greater focus on the research problem rather than the research method (Truong, Xiaoming Liu and Yu , 2020).

Although researchers have largely applied quantitative approaches in studying tax compliance, qualitative approaches have also been applied, albeit to a lesser extent (Dallyn, 2017; Hodgson, Walpole and McKerchar, 2009) and a limited number of studies have combined the two approaches (Angeles, 2021; Chen Loo, McKerchar and Hansford, 2009; Enachescu et al., 2019; Kurniawan, 2020; Mohdali and Pope, 2014; Saulitis and Chapkovski, 2023).

Reviews of tax compliance studies conducted by Jackson and Milliron (1986) prior to 1986; Richardson and Sawyer (2001) from 1986 to 1997 and Yong et al. (2019) from 1998 to 2017 reflect this dominance of quantitative approaches and the limited use of qualitative methods and mixed methods throughout the years. Jackson and Milliron (1986) review showed that the methodological approaches followed prior to 1986 were quantitative comprising of surveys, experiments, analytical models and regression analysis. Richardson and Sawyer (2001) study showed the emergence of qualitative approaches with the authors identifying the use of process tracing, which is a qualitative method, in one of the tax compliance studies. From 1998 to 2017 there appeared to be an acceptance of the use of qualitative methods and also an emergence of mixed methods in tax compliance research. Yong et al. (2019) study shows that out of the 713 studies reviewed, 34 of the studies were qualitative in nature and 20 were mixed methods studies. The balance of the studies was quantitative.

Although there has been a gradual increase in the utilisation of mixed methods, this method is still underutilised potentially due to resistance to deviate from the traditional manner of conducting tax compliance research which intuitively implies applying a quantitative approach, despite that some posed research questions may be better addressed by taking a mixed methods approach. Researchers' limited understanding of applying mixed methods could also explain the reluctance to take a mixed methods approach. Fortunately, in recent times the emergence of specialist journals such as the *Journal of Mixed Methods Research* reinforces the application of mixed methods to research as an acceptable and credible approach to research. Such journals also allow researchers to share their experiences and lessons gained from applying mixed methods to their research. The sharing of knowledge and lessons learned encourages methodological development and this article contributes

to the development of mixed methods approach, to not only the tax compliance behaviour research but to business and management research as a whole, by sharing knowledge and lessons learned.

The complexity of understanding tax compliance behaviour may necessitate that researchers also explore mixed methods in order to address research questions that cannot be answered by only employing quantitative methods. A mixed methods approach provides an opportunity for a holistic view of tax compliance behaviour given, as noted by Alm et al. (2012), there are still major gaps in our understanding of tax compliance behaviour.

The remainder of this article is organised as follows: A brief review of mixed methods research is provided and also a discussion on the use of this approach in tax compliance research. An example of using mixed methods in tax compliance research is provided followed by an outline of the value gained in using mixed methods and how challenges in mixing methods can be faced. The last section sets out the conclusion.

2.   What is Mixed Methods Research?

The mixed methods approach to research is a fairly new methodology, which originated in the late 1980s and 1990s. The approach is defined as:

> *"… the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration" (Johnson, Onwuegbuzie and Turner, 2007.p123).*

Taking a mixed method approach to research can assist in addressing inherent shortcomings in qualitative and quantitative approaches as often times the shortcomings of one may be addressed by the strength of the other. One shortcoming of the quantitative approach is that the results or information obtained may be too general to be applied to a specific setting. This shortcoming can be addressed by one of the strengths of applying a qualitative approach which is the approach's usefulness in providing in-depth understanding of the topic or specific setting being studied (Johnson and Onwuegbuzie, 2004). Some of the shortcomings of a qualitative approach, such as that the findings may not be generalised to the wider population or the difficulty of testing hypotheses using this approach (Johnson and Onwuegbuzie, 2004), can be addressed by applying a quantitative approach which allows a researcher to test hypotheses the results of which can often be generalised to a wider population.

The manner in which methods are mixed is also driven by the purpose of undertaking a mixed-methods approach. There are different purposes and advantages of mixing methods:

- Triangulation – use of one set of results with another in order to enhance validity
- Complementarity – elaboration or clarification of one set of results with findings from another method
- Development – use of one set of results to develop the use of another method
- Expansion – seeking to expand the range of inquiry by using different research methods for different inquiry components (Molina-Azorin, 2016)

In recent years mixed methods have been used in a few tax compliance behaviour studies. These studies adopted different approaches in combining qualitative and qualitative methods. Table 1 shows some of the recent tax compliance studies that have adopted a mixed methods approach.

Table 1: Tax Compliance Studies

	Data collection method		Data analysis	
Study	**Qualitative method**	**Quantitative method**	**Qualitative method**	**Quantitative method**
Saulitis and Chapkovski, 2023	Field experiment		Qualitative content analysis	Quantitative content analysis; Statistical analysis
Muharremi, Salé & Hoxhaj, 2022	Literature review	Survey		Statistical analysis
Angeles, 2021	Interviews	Survey	Thematic and joint-result analyses	Binary logistic regression

Study	Data collection method		Data analysis	
	Qualitative method	Quantitative method	Qualitative method	Quantitative method
Kurniawan, 2020	Interviews	Survey	Detail not provided in study	Statistical analysis
Sebele-Mpofu, 2020	Interviews and document review	Survey	Detail not provided in study	Statistical analysis
Bornman and Ramutumbu, 2019	Structured Questionnaires		Thematic analysis	Descriptive statistics
Enachescu et al., 2019	Focus groups	Experimental online survey	Thematic analysis	Statistical analysis
Sobhkhiz et al., 2019	Semi-structured interviews and Survey -containing open-ended questions	Survey – containing close-ended questions	Detail not provided in study	Partial least squares path modeling
Alleyne and Harris, 2017	Survey – containing close-ended and open-ended questions		Thematic analysis	Multivariate analyses
Rosid, Evans and Tran-Nam, 2016	Interviews	Survey	Thematic analysis	Structural equation modeling
Isa, 2014	Focus group	Survey	Thematic analysis	Statistical analysis
Mohdali and Pope, 2014	Interviews	Survey	Detail not provided in study	Statistical analysis
Lavermicocca and McKerchar, 2013	Interviews	Survey	Thematic analysis	Statistical analysis
Lozza et al., 2013	Focus groups	Survey	Thematic analysis and CAQDAS lexical analysis	Statistical analysis

In most of these studies data is collected using mixed methods and a combination of interviews and surveys appear to be a popular choice for researchers. The dominant method is often the quantitative method with limited focus on justifying the choice of method, providing detail on how data was analysed and presenting results of the qualitative method. The dominance of the quantitaive method is perhaps expected as researchers have largely applied quantitative approaches in studying tax compliance and are perhaps reluctant from moving away from this established practice due to some academic journals' unwillingness to publish tax compliance studies that do not present quantitative results. This stance often misses the point that it is not a matter of qualitative method versus quantitative method but rather whether the observed results of a study are a valid representation of the phenomenon being studied and whether the posed research question(s) can be better addressed by adopting a different research approach (Malina, Nørreklit and Selto, 2011).

Development of the quantitive method is often the reason for mixing methods (Enachescu et al., 2019; Isa, 2014; Lavermicocca and McKerchar, 2013; Muharremi, Salé & Hoxhaj, 2022; Rosid, Evans and Tran-Nam, 2016; Sobhkhiz et al., 2019). This perhaps also explains the disproportionate presentation of results, with the focus on presenting results from the quantitative method and a superficial presentation of the results from the qualitative method.

An important aspect of adopting a mixed-method approach is the intergration of the qualitative and quantitative methods (Molina-Azorin, 2016). The qualitative and quantitative results in tax compliance studies that adopted mixed methods are often presented separately and intergration is only evident in the discussion section of the study where an attempt is made to combine qualitative findings with quantative findings.

Mixed method research has a number of advantages, apart from the advantage of allowing a researcher address the shortcomings of one method with the strenght of another method, it can be seen as a a superior method in adequately addressing research questions compared to applying a single research method (Chen Loo, McKerchar

and Hansford, 2009). It also provides a comprehensive understanding of the research topic. This added value is noted in a number of these tax compliance studies (Enachescu et al., 2019; Kurniawan, 2020; Saulitis and Chapkovski, 2023; Sebele-Mpofu, 2020). There is also an understanding that "qualitative research in economics should not be treated as direct empirical evidence but rather offers a critical perspective on standard theoretical assumptions and presenting alternative viewpoints."(Saulitis and Chapkovski, 2023. p. 8).

Like any other approach to research conducting mixed method research has a number of challenges, Firstly, there is a requirement that the researcher should have a good understanding of both qualitative and quantitative approaches. Secondly, combining methods can be time consuming as each method has its individual processes that need to be followed. Thirdly, presenting the results of a mixed methods study can be difficult, particularly for researchers aiming to publish their research in an academic journal. The unbalanced reporting of results in tax compliance studies published in academic journals is evidence of this challenge. Lastly, there is challenge in ensuring meaningfully integrating of the qualitative and quantitative methods.

In spite of its challenges, however, there has been a growing appreciation for the fact that the mixed methods approach is a methodology that can offer the needed scope for researchers who are focused more on the purpose of the research question than on being confined to one paradigm (Creswell and Creswell, 2018; McKerchar, 2008).

The sections that follows provides an example of how mixed methods were applied in tax compliance research, with a focus on the added value that was gained from mixing methods and how methodological challenges can be faced.

3.   An Example of Mixed Methods in Tax Compliance Research

The aims of this article are to highlight the added value of mixing methods and how methodological challenges can be faced. The study began in 2017 as part of a PhD research project. The principal objective of the project was to consider whether, and if so to what extent, personal taxpayers might be positively influenced so far as their tax compliance behaviour was concerned, by so-called 'nudging'. Nudge theory is a concept in behavioural economics that proposes positive reinforcement and indirect suggestions as ways to influence the behaviour and decision-making of groups or individuals. Nudging contrasts with other ways to achieve compliance, such as through education, legislation, regulation or enforcement.

The study was particularly concerned with the structural and content attributes of nudge messages and the timing of reciprocity nudges, and sought to determine the association between reciprocity nudges and tax compliance behaviour and to determine whether the effect of reciprocity nudges differs based on factors such as gender, income level, population group of the taxpayer, attitude towards tax and perception of corruption.

The data were collected in sequential stages using mixed methods. The first stage involved conducting a qualitative content analysis, followed by a quantitative content analysis and the last stage involved conducting a laboratory experiment (quantitative).

Therefore, the motive of mixing methods was for development and expansion purposes. For development purposes, the results from the qualitative content analysis phase were used for the purposes of conducting the quantitative content analysis. The data obtained from the quantitative content analysis were then embedded in the quantitative experimental design. Figure 1 illustrates the design.
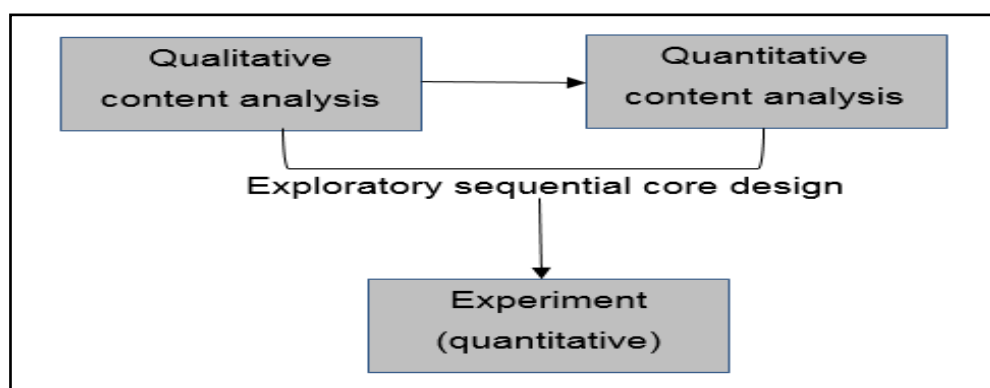

Figure 1: Mixed Methods Design Used in the Study

For expansion purposes, one of the research questions of the study was " what structural and content message attributes are appropriate when using reciprocity to encourage voluntary tax compliance?" This research question demanded that a qualitative analysis of academic literature be conducted in addition to a laboratory experiment.

The researcher adopted this design as a large majority of academic research conducted on the influence of nudge messages on tax compliance behaviour applied only quantitative methods in examining the association between these two variables: see Antinyan and Asatryan (2020) for a meta-analysis of studies on nudging and tax compliance. This leaves open questions on what role is played by the structural and content attributes of the messages in the effectiveness of the nudge and whether the observed results in relation to this research area are a true representation of the phenomenon being studied? As noted by Malina, Nørreklit and Selto (2011), quantitative accounting research could be examined meaningfully by applying complementary qualitative methods in the design. The same holds true for tax compliance research in that complementary, expansionary, developmental qualitative methods could assist in providing a complete picture of the phenomenon being studied.

The following paragraphs will briefly explain the process undertaken for each of the three methods applied (qualitative content analysis, quantitative content analysis and quantitative experiment). This is followed by a discussion on the value gained by mixing methods and how challenges in mixing methods can be faced.

3.1 Qualitative Content Analysis

A qualitative content analysis method was applied first in order to determine the structural and content attributes of effective nudge messages when using audio-visual media as a mode of delivery. We set out to determine this as prior research has indicated that structural and content attributes are important aspects of an effective message (Morgan et al., 2003) and similar research that has examined the relationship between tax nudges or messages and tax compliance behaviour has reduced the understanding of this relationship to numerical values rather than attempting to understand whether the structure and content of the messages are appropriately designed for the intended target audience.

The qualitative content analysis was conducted on academic literature. The aim of the qualitative content analysis was not to provide a comprehensive analysis of literature but rather to identify structural and content message attributes that have been found to be likely to draw a person's attention to the message being communicated and thus translate into change in behaviour.

An inductive content analysis process was followed by reading through the selected academic material to identify attributes from the data. Academic literature was initially identified by searching databases. The snowballing technique, this is a technique in which subsequent relevant literature is identified from the initial literature, was also used to identify other relevant literature. The attributes (results from this qualitative content analysis) identified through this process were then used to create a code book for the quantitative content analyses stage which later informed the design of the laboratory experiment. The qualitative content analysis method also contributed to the expansion of the inquiry by addressing the research question on what structural and content message attributes are appropriate when using reciprocity to encourage voluntary tax compliance. Incorporating this qualitative method provided a holistic view of potential moderating factors that could affect the strength of the relationship between reciprocity nudge messages and tax compliance behaviour.

3.2 Quantitative Content Analysis

After conducting a qualitative content analysis as explained above, a quantitative content analysis was conducted. The quantitative content analysis was conducted on 12 videos used by the South African tax authority in a "Touching Lives" campaign that was run during the period 2012-2013. Although the campaign was broadcast on television in the 2012-2013 period, at the time of conducting this research the videos were still publicly available, and therefore current, on the tax authority's YouTube channel.

The quantitative content analysis process entailed developing a coding scheme. The coding scheme was developed using the attributes identified through the qualitative content analysis. Each of the 12 attributes – which are: captures attention, new information, evokes emotion, credible source, goal framing, credible message, message clarity, message sidedness, message efficacy, and fits with prior knowledge – was assigned codes for coding purposes. Therefore, the data collected in the qualitative content analysis stage were used for the development of the quantitative analysis stage. Two attributes (directs attention and duration of exposure) were not included in the development of the coding scheme as they were difficult to measure in this study.

As a result of the quantitative content analysis process, two videos were selected for the purpose of designing the experimental stage of the research. We selected one video which contained most structural and content attributes of an effective message and one video which contained the least attributes of an effective message in order to examine the role played by structural and content attributes in nudge messages and test the hypothesis that in order to be more effective a reciprocity nudge message must contain most structural and content attributes of an effective message.

3.3 Experiment

The third and final stage was to design and conduct a laboratory experiment using the results from the quantitative content analysis process. A post-test laboratory experimental design was used as illustrated in Table 2.

Table 2: Experimental Design

Random assignment	Groups 1-4	Treatment	Observe
	Group 5	Control	Observe

Source: Adapted from (Leedy and Ormrod, 2014)

The experiment simulated the general environment of a voluntary tax reporting system. The participants in the experiment earned income by performing tasks. They then decided on how much (if any) of the income earned to declare; as a result, taxes were only paid on income which the participants had reported to the tax authority.

Watching the two videos selected in the quantitative content analysis stage formed part of the tasks that the participants in the treatment groups had to perform. Participants in the treatment groups were required to watch one of the two videos as part of a series of other videos. After watching each video, they were required to complete a task which entailed answering questions related to the videos watched and which would potentially earn the participants income (a performance-based payout or reward, based on their answers).

Figures 2 and Figure 3 show the steps followed by the participants in the treatment groups. Each of the videos selected through the quantitative content analysis stage is circled in the Figures 2 and 3 respectively to show how the videos were used in the experimental design.
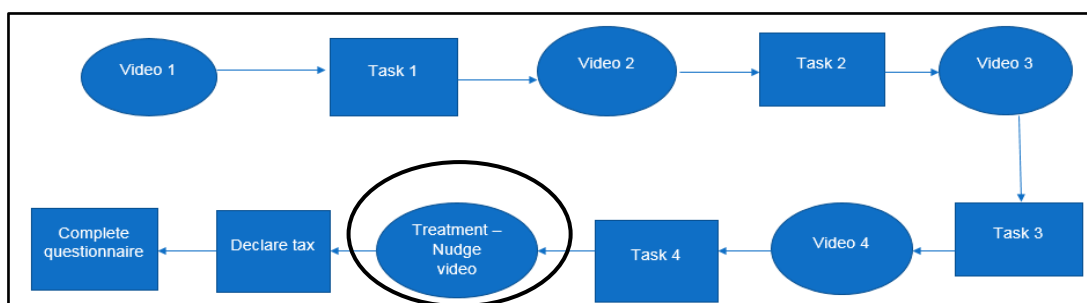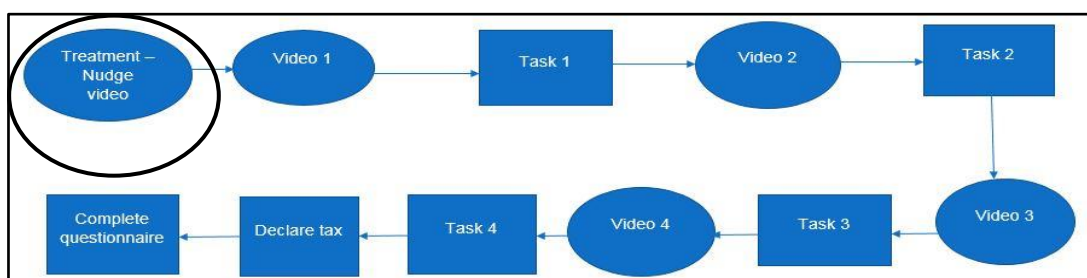

Figure 2: Treatment group A

Figure 3: Treatment group B

4. Value Gained by Mixing Methods

4.1 Test and Build Theory

As noted by Allen (2017), although content analysis can be useful in describing messages, it cannot be used as a method to determine cause-and-effect of a message. However, this method can be combined successfully with other methods in order to determine cause-and-effect. In planning and executing the research project, advantage was taken of this strength. As shown in the previous sections, the researcher utilised a qualitative and quantitative content analysis to develop an experiment in which cause-and effect could be tested.

The qualitative content analysis process provided rich data which provided an understanding that in order to be more effective nudge messages should contain certain structural and content attributes. This informative insight could have not been obtained by applying a quantitative method. The results of the content analysis process enabled the researcher to conduct an in-depth interrogation of the 12 videos in order to determine whether they contained these identified attributes of an effective nudge message. Thus, the qualitative content analysis was not conducted merely as a means to select videos for the experiment but formed part of one of the objectives of the research which was to make recommendations about the structural and content attributes of a nudge message. By implementing a mixed method approach the researcher was able to both test theory and also build on theory. The theory was tested by conducting the experiment and testing the causal relationship between nudge messages and tax compliance behaviour; while conducting the qualitative content analyses allowed for building on theory by highlighting the structural and content attributes that ought to be incorporated into nudge messages delivered using audio-visual media.

4.2 Improved Data Collection Instrument

Another value gained by mixing methods is that the data from one method can be embedded in another method in order to improve a data collection instrument. The rich data obtained through the qualitative content analysis allowed a deeper understanding of the role of structural and content message attributes and that understanding informed and guided the selection of nudge messages that were used in the collection of data in the experiment stage. Evidence on the effect of nudge messages on tax compliance behaviour is often mixed with lack of effort invested in establishing the root cause of these differences. Mixing methods enables a researcher to attempt to establish the existence of moderating factors that could affect the relationship between variables. By incorporating the role of structural and content attributes the researcher was able to test the effect of this factor on the relationship between nudge messages and tax compliance behaviour thus increasing the validity of the quantitative results. A few tax compliance studies have acknowledged this value of improving data collection instruments by adopting a mixed methods approach (Enachescu et al., 2019; Isa, 2014; Lavermicocca and McKerchar, 2013; Muharremi, Salé and Hoxhaj, 2022; Rosid, Evans and Tran-Nam, 2016; Sobhkhiz et al., 2019).

4.3 Addressed Methodological Weaknesses

The advantage of a content analysis is that this method can be applied to various types of communications (Allen, 2017). This allowed the researcher to conduct a content analysis on two different types of communications (written and audio-visual). The data collected from the analysis of the written communication were then used in the analysis of the audio-visual communication. By undertaking this process, the researcher was able to address one of the research objectives which allowed for identification and description of specific attributes that are important in ensuring the effectiveness of nudge messages delivered using audio visual media. This in-depth understanding could not have been obtained by solely conducting an experiment.

Conducting the laboratory experiment then allowed the researcher to test whether the message that contained most of the structural and content attributes for an effective message, as identified through the qualitative content analysis process, was likely to be more effective message in influencing tax compliance behaviour compared to the message that was lacking in these attributes. The experiment allowed for testing of cause-and-effect which could not be done by merely conducting a content analysis. Mixing the methods thus permitted the researcher to address the weaknesses of the methods applied.

4.4 Comprehensive Understanding of Research Results

Adopting a mixed methods approach allowed for a comprehensive understanding of results observed from study. The researcher was able to explain the reason for one nudge message being more effective in positively influencing tax compliance behaviour compared to another nudge message. This allowed the researcher to make recommendations about the design of nudge messages aimed to change tax compliance behaviour. The ability

a of mixed method approach in comprehensively understanding of research findings is noted in other tax compliance studies:

"With the mixed method, research results can be explained comprehensively. The results of this study are explained using quantitative methods and corroborated by qualitative methods"(Kurniawan, 2020. p60)

"Our mixed-methods approach delivers informative insights for a broader set of taxpayers"(Saulitis and Chapkovski, 2023.p18)

"Taken together, both studies provide a detailed picture of the role of emotions in tax compliance."(Enachescu et al., 2019.p3)

"This approach is useful when the aim is to comprehend cultural meanings, values, beliefs, implicit norms and behaviours of a target population for a topic that is very specific and circumscribed, such as tax compliance."(Lozza et al., 2013.p59).

5. How Challenges in Mixing Methods can be Faced

The discussion so far has highlighted the value gained by mixing methods. However, despite these benefits the approach of mixing methods comes with challenges. Firstly, there is a requirement that the researcher should have a good understanding of both qualitative and quantitative approaches. This challenge was faced by investing time in obtaining a good understanding of the different methods. This was done by engaging methodology literature with a focus on the selected methods for the study. Upskilling through attending research courses is also beneficial. Another manner in which this challenge can be faced is by adopting a team approach to the research by inviting co-researchers that have the missing research method expertise for collaboration.

Secondly, mixing methods was time consuming as each individual method required time in designing the data collection instrument and collecting the data. The qualitative content analysis process required a significant time investment in searching through databases for relevant academic literature. The process of reading through the selected literature and identifying concepts/attributes demanded time. For the quantitative content analysis, majority of the time was spent on development of the coding scheme. The experiment was also particularly time consuming as the design of the experiment needed to be carefully done and tested. As this was a laboratory experiment there were a number of logistical considerations that needed to be organised. These challenges were faced by planning the research project to identify tasks that should be carried out by the researcher and those that can be delegated to research assistants. For mixed method studies that do not necessitate sequential data collection, qualitative and quantitative data can be collected concurrently to elevate time constraints .

Thirdly, presenting the results of a mixed methods study can be difficult, particularly for researchers aiming to publish their research in an academic journal. This is because of the word limitations of the journals which make it difficult for a researcher to comprehensively present their research. This leads to superficial presentation of results, particularly qualitative results, and lack of justification for methods adopted. This challenge also leads to lack of apparent integration of the qualitative and quantitative results. To overcome this challenge, researchers may decide to present their data from the different methods separately. However, identifying academic journals that embrace mixed-method research is preferable as it grants the researcher an opportunity to holistically present their research results. This also gives researcher an opportunity to clearly show the integration of results from the different methods applied in order to give understanding and context to the observed findings.

Lastly, adequately addressing inherent concerns related to validity and reliability for each of research methods is vital to mixed methods research. Failure to address these concerns will cast doubt on the validity of the results and conclusions drawn based on the results observed. This challenge was overcome by paying attention to the validity and reliability concerns of the individual methods. For the qualitative content analysis, generally, this method is known to suffer from issues of internal validity. This was addressed by analysing literature that was searched for in reliable databases. A detailed description of the structural and content attributes of an effective message was provided, in order to give other researchers an understanding of the attributes identified in the content analysis process, standard processes that apply when conducting a content analysis as a research method were outlined and followed. The content analysis of the academic literature in the study was performed by one person and even though the coding was rechecked to ensure that the data were correctly analysed,

recommendation is that more than one person should conduct the analysis as this is likely to enhance internal validity.

For the quantitative content analysis, in order to improve the coding scheme before final coding took place, a pilot test was conducted. The pilot test was conducted by the author and an independent coder, using coding forms. The intercoder reliability was determined in order to identify coding issues that needed to be rectified before commencing with the final coding process. This process was followed to ensure reliability.

In addition, the percentage agreement and the Krippendorff's alpha were calculated to determine the intercoder reliability of the final coding process. Percentage agreement is a common coefficient used to assess coder reliability in content analysis (Neuendorf, 2017). Krippendorff's alpha is also often used to assess reliability. Similar to the recommendation on the qualitative content analysis process, the use of more than one coder is recommended and is common practice when conducting a content analysis. Although there is a risk that different coders might interpret codes differently, having clearly defined codes will mitigate this risk (Rose, 2016). In addition, proper training of coders is essential as it will ensure intercoder reliability.

When conducting an experimental research study, internal and external validity is important. Without internal validity, a researcher will find it difficult to draw conclusions about the cause and effect relationship between the variables being studied (Leedy and Ormrod, 2014) and without external validity the researcher may find it difficult to generalise the findings of a study to settings outside the experimental settings. Laboratory experiments allow a researcher to have greater control over aspects of the experiment, such as selection of participants thus improving the internal validity of the research. However, in laboratory experiments external validity is more challenging to establish (Saunders, Lewis and Thornhill, 2012). Mixing methods allowed the research to address this issue of external validity as adopting a mixed method design in research may help with generalisability of a study (Saunders, Lewis and Thornhill, 2012). The experiment is preceded by a qualitative and a quantitative content analysis, which provides a more complete understanding of the influence of reciprocity nudge messages on tax compliance. To address the internal validity concerns, participants in the study were randomly allocated to the treatment groups and control group. Events occurring concurrently with the experiment may also pose a threat to internal validity. To reduce this threat, the experiment was conducted in one setting (computer labs at a university in South Africa).

6. Conclusion

This article highlighted the emerging use of mixed methods in tax compliance behaviour research and noted a few studies that have adopted different approaches in combining methods. Despite this emerging trend of applying mixed methods to compliance research, there are no known studies that have summarised this methodological approach for tax compliance researchers. Through the use of a study on the association between reciprocity nudge messages and tax compliance behaviour, this article assisted in illustrating how different research methods can be combined in order to address research objectives and provide an in-depth view of tax compliance behaviour.

The value obtained from mixing research methods is discussed. The first value identified is the ability to test and also build theory. In the research project example presented in this article, theory was tested by using a quantitative method to test the causal relationship between nudge messages and tax compliance behavior. Conducting a qualitative method also allowed for building on theory.

The second value identified is that one method can be used to inform and guide collection of data in another method. In the research project example, data obtained from a qualitative and a quantitative content analysis were used to inform and guide the collection of data in an experimental method.

The third value, a mixed methods approach can assist a researcher with addressing weaknesses in other methods. Finally, mixing methods provides a researcher with a deeper understanding of tax compliance behaviour. In the research project example discussed in this article, clearly identifying and understanding structural and content attributes of an effective message allowed for an appreciation of the role of these attributes as moderators in the relationship between nudge messages and tax compliance behaviour. This knowledge will better equip those tasked with implementing such strategies to be attentive to the appropriate structural and content attributes needed in a nudge message aimed at changing tax compliance behaviour.

As with any research method, mixing methods presents some challenges such as the requirement that the researcher should have a good understanding of both qualitative and quantitative methods, combining methods can be time consuming and researchers may have some challenges in presenting and publishing results from

mixed methods research. Notwithstanding these challenges, mixing methods provides tax researchers with an opportunity for an enriched understanding of tax compliance behavior.

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