

DEVELOPING MEASURES FOR “RELATIONSHIP TRANSPARENCY” AND “INTENTION TO COMPLY” IN TAX DOMAIN

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Abstract: The creation of good measures of variables is vital for the evolution of a core body of knowledge in social science. The purpose of this study is to develop measurements for two constructs in the tax compliance domain: “Relationship transparency” and “intention to comply”. The sample of items was generated based on a rigorous review of related literature. Based on Churchill’s approach, this study developed seven new items to measure “relationship transparency” and five items to measure “intention to comply”, with the aim of improving tax compliance behaviour. To analyse the scale validation and reliability of the constructs, IBM SPSS and Partial Least Squares-Structural Equation Modelling (PLS-SEM) techniques were employed. The findings showed significant correlation among constructs, and the measures were found to be valid and reliable. The results of this study will help researchers and practitioners in the management/accounting fields to develop better research and expand the related body of knowledge.

Keywords: Transparency, intention, scale development, tax compliance, tax system.

Introduction

This paper aims to report the development of validation and reliability of the scales related to “relationship transparency” and “intention to comply”. These measures can serve to inspire future research in both the tax administration and tax compliance. In the last 10 years, transparency has become an important issue in the relationships to organisations, financial institutions and countries (Öge, 2016). Transparency minimises government misconduct, thus, the demand for such practise has risen significantly (Park & Blenkinsopp, 2011). It involves providing sufficient information or relevant activities for people to understand policies (Kolstad & Wiig, 2009). Researchers propose that the term transparency refers to the size and types of information available to others (Finel & Lord, 1999). In the public sector, maintaining transparency between government authorities and citizens is necessary (Kopits & Craig, 1998), and increasing transparency can lead to compliance among citizens (Freedman, 2008).

To ensure legitimacy, public institutions should be transparent in handling their procedures and processes. Furthermore, transparency practices by public authorities will eventually encourage compliance behaviour among citizens (Meijer, 2007). Institutions practice transparency if they deliver good value to individuals and are able to satisfy them. Thus, the practice of transparency minimises the perceived need to constantly search for detailed information. To date, the impact of relationship transparency in tax compliance relationships has not yet been researched.

Effective cooperation between the government, tax authorities, and the public rely on the availability and accessibility of information. The consequences of a lack of transparency will result in relationship gaps, which limits the ability of government entities, authorities, individuals, and others to develop and improve cooperation (Mohamad & Othman, 2013). As a result, relationship transparency

between parties is essential for any system or transaction to be successful. Hence, there is a need to consider developing a scale to measure “relationship transparency” for all parties to achieve the target of the concept. The developed scale should be driven by reliability and validity based on both statistical and judgemental criteria.

Arguably, the existence of “intention to comply” in the relationship may perhaps generate a common motivation for an individual or taxpayer towards effective voluntary tax compliance. Intention is an indication of an individual’s desire to perform a behaviour (Ajzen, 1991). According to Fishbein and Ajzen (1975), the behavioural intention towards actual behaviour is influenced by several factors such as personal factors/attitudes, social factors, and subjective norms. In this case, intention will be the antecedent factor for whether or not an individual behaves in a compliant manner. Thus, intention is a critical factor in promoting tax compliance. All actions, whether spiritual or physical that can have a positive influence on an individual’s environment are considered behaviours (Bulutoding *et al.*, 2018). Tax compliance behaviour encompasses all actions or good deeds aimed at calculating, paying, and reporting tax amounts on a regular basis. However, these actions are mainly determined by an individual’s intention factor.

Prior studies (e.g., Kogler *et al.*, 2013; Efebera *et al.*, 2015; Kaplanoglou & Rapanos, 2015; Kasper *et al.*, 2015) have indicated that intention may potentially affect tax compliance behaviour, especially with regard to direct taxes. For instance, the experimental treatments by Kogler (2013) and Kasper (2015) showed a significant correlation between authorities’ trust and power and the intention to comply. Furthermore, the construct of behavioural intention has been widely considered as the main antecedent of tax compliance. However, the results were inconclusive due to unclear or problematic methodologies, particularly with regard to validity and reliability. Therefore, reconsideration of this issue by redeveloping

measures of the “intention to comply” construct is needed.

The interaction between “relationship transparency” {the transparency between tax authority and taxpayer} and positive attitudes toward the government represented by “intention to comply” is expected to increase tax compliance among taxpayers. This interaction shows an increased level of confidence in the authorities among taxpayers. In other words, if taxpayers have a positive attitude and feel that there is clarity in the implementation of tax laws, besides the government also managing its tax revenues transparently, the taxpayers are likely to increase their intention to comply. However, the requirement of transparency in the relationship between the tax authority and taxpayer is that taxpayers should be honest and transparent in all their dealings, and provide all required information and documents timely and accurately as per tax law.

The concept of relationship transparency has neither been thoroughly conceptualised nor its role defined within the relationship between the tax authority and taxpayers. In a nutshell, very little is known about the transparency between tax administration and taxpayers, and the literature has been relatively silent on the concept’s role in tax compliance. Some studies have been conducted on transparency and attempted to develop the concept in general to help individuals understand the limited field of government issues. Unfortunately, this knowledge is supported by very little rigorous academic research. Several studies in the tax field have investigated the “intention to comply”. However, based on a review of the literature, the results were not as expected by researchers due to the lack of research instruments (the construct’s measures). Hence, the need for developing measures of “relationship transparency” has been stressed in this paper, since there are no studies to date that report the development and validation of such a scale in the taxation domain. Besides, the “intention to comply” variable has been redeveloped based on a scientific methodology in this paper. This

study believes that the scales developed would stimulate much needed academic research and provide insights for enhancing tax compliance behaviour and resolving issues in tax and other related domains. This would allow for greater voluntary compliance and more compliant audiences.

The aim of this research is to develop a measurement tool in the tax domain. The following sections discuss the theoretical backdrop of the constructs and basis for the measures. The methodology section outlines the designing and testing steps. The analysis section presents the findings of the developed scales and their validity and reliability. The final section includes the conclusion and implications of the measures, followed by limitations and insights for future research.

Measurement Development

According to Nunnally and Bernstein (1994), measurement consists of rules (details of definition) for assigning symbols to represent the objects (e.g., individuals) that can be represented numerically and measure the attributes of objects but not the objects themselves. Developing a unique measure is necessary (Shimp & Sharma, 1987) but obtaining accurate measurements of constructs is the most difficult aspect in understanding people's behaviour (Hinkin, 1998). Several authors in social science have suggested approaches for developing measures (Churchill, 1979; Nunnally & Bernstein, 1994; Hinkin, 1998; Rossiter, 2002; MacKenzie *et al.*, 2011; Wieland *et al.*, 2017). The most popular may be the one by Churchill (1979) for developing measures in social science, which is the wider approach among researchers. Furthermore, MacKenzie *et al.* (2011) can also be a useful guide for researchers, particularly in the field of management.

The Relationship Transparency

Constructing measurements is perhaps the most important part of any study (Hinkin, 1998). In an extensive literature review on tax compliance, it

was found that no measure exists to assess the research phenomenon in terms of "relationship transparency". Although taxation researchers have shown increasing interest in government and tax transparency using survey methods in recent years (e.g., Siahaan, 2013; Adeyeye & Otusanya, 2015; Al-Maghrebi, 2017; Kiow *et al.*, 2017; Noked, 2018), none of them have looked at the theoretical/empirical connection in "relationship transparency" between tax authority and taxpayers toward voluntary tax compliance. Hence, this study decided to develop a new measure, in which the developed scale can provide a better understanding for the phenomenon. In marketing sector, the "relationship transparency" was used to examine the relationship between vendors and customers (Eggert & Helm, 2003). However, the measures were not suitable or even adoptable for use in the tax compliance domain due to differences in the field, concepts and even the goal. Thus, this led us to build a new measure that is consistent with the domain of tax compliance. The creation of measurements may be due to a lack of measures to investigate a particular phenomenon (Hinkin, 1998).

Furthermore, another motivation for this study is the importance of transparency between tax authorities and taxpayers. The Malaysian Tax Act (1967) has mentioned the importance of transparency in tax procedures, services and the flow of information by tax authorities, as well as the transparency of taxpayers. Taxpayers must be cooperative, honest, and transparent with tax authority. Consequently, developing measures for "relationship transparency" and examining such factors will provide a practical instrument in tax compliance issues.

The Intention to Comply

The search for new measures may be attributed to the need for better measures, limitations in existing measures, or perhaps inadequacy of older measures (Churchill, 1979). Prior studies that examined the intention factor in tax literature have either used a hypothetical scenario technique to measure the behavioural intention of

taxpayers (Benk *et al.*, 2011; Saad, 2011; Efebera *et al.*, 2015) or used unclear measurements with ambiguous and lengthy items, making it difficult to concentrate (e.g., Wahl *et al.*, 2010; Kogler *et al.*, 2013; Kaplanoglou & Rapanos, 2015; Kasper *et al.*, 2015). Researchers using a hypothetical scenario approach have found that respondents may provide limited information when expressing the outcome variable, and inappropriate measures will confuse them. In brief, inconsistent measures may affect the overall validity and robustness of results.

Moreover, due to the difficulty in generating real data that reflect the real attitude of taxpayers with the scenario technique and the unclearness of prior measures, this study has evaluated

and redeveloped the prior measures (items) of the “intention to comply” construct with a clear scale (using direct statements with a five-point scale). These redeveloped measures will provide real data that express the real attitudes of respondents and may be helpful for future researchers conducting similar studies.

Methodology

The empirical objective of the study is to develop reliable and valid scales. To achieve this, a multi-step and comprehensive approach designed by Churchill (1979) was used during the development and validation phases. Each step is explained below. Figure 1 briefly describes these steps.

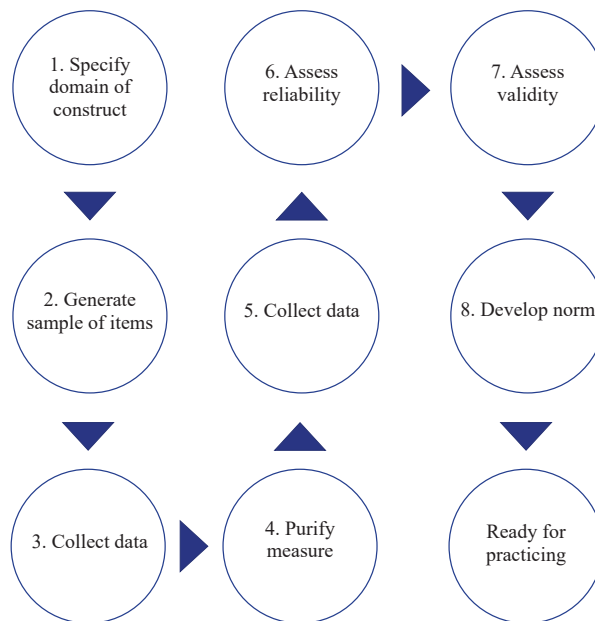


Figure 1: Procedures for developing better measures (Churchill, 1979, p. 66)

Step 1: Specify Domain of Construct

The first step in developing a scale is to determine the construct domain that will be studied. Constructing a well-articulated theoretical underpinning that suggests the content domain for the new measure is critical for successful item generation (Churchill, 1979; Hinkin,

1998; MacKenzie *et al.*, 2011). It is necessary to identify what the construct is meant to reflect or capture conceptually, as well as how it varies from other comparable constructs (MacKenzie *et al.*, 2011).

(a) Relationship Transparency

Eggert and Helm (2003) defined relationship transparency as “an individual’s subjective perception of being informed about the relevant actions and properties of the other party in the interaction and indicate that it involves giving information about important characteristics such as technical abilities and relationship atmosphere” (p.101). In the current study, the concept of “relationship transparency” in tax

compliance is defined as the transparency of relationship between tax authority as the first party and taxpayer as the second party (Figure 2). This means that taxpayers can obtain clear tax information according to tax law and understanding of the tax authority’s processes, whereas the tax authority can obtain all the required tax information from the taxpayer and must be transparent in all dealings.

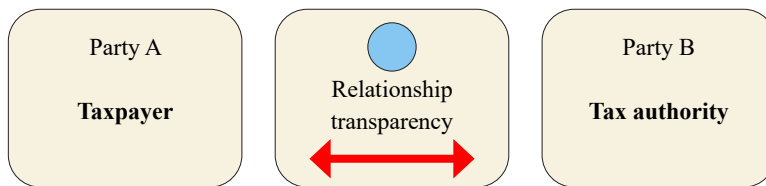


Figure 2: “Relationship transparency” between tax authority and taxpayer

Source: Author

(b) Intention to Comply

Behavioural intention is defined as the predicted probability that an individual will engage in an actual behaviour (Fishbein & Ajzen, 1975). In addition, Ajzen (1991) defined behavioural intention as a signal of an individual’s willingness to obey or comply with given instructions (e.g., tax code), and is considered to be the antecedent to actual behaviour (e.g., tax compliance). In the current study, intention is defined as a taxpayer’s perceived likelihood of engaging in a voluntary tax behaviour. As a general principle, the stronger the intention to comply, the more likely the taxpayer is to comply with tax laws. The concept of intention is elaborated based on the propositions of reasoned action theory. The intention to comply is the main part that mediates relationships in tax compliance behaviours. Tax compliance is a voluntary behaviour when dealing with tax issues. In addition to the theory, previous literature was used to understand behavioural intention towards the actual behaviour of tax compliance.

Step 2: Generate Sample of Items

The second step of the procedures to develop measures is to generate the target items. These items should capture the specified domain of the construct (Churchill, 1979), and may come from multiple sources (Churchill, 1979; Nunnally & Bernstein, 1994) such as theoretical definition of the construct, past studies, experts, or sample of the target population. Once the constructs have been defined, this study has generated a group of items (Appendix A) that completely represent the conceptual domain of the constructs. Based on literature review, these items came from several sources, for example, the theoretical definition of constructs, social theories, prior theoretical, and empirical studies in the field of constructs, propositions from experts in the taxation field, and suggestions from interviewees who are academics and practitioners. Further, to generate a representative item for the constructs, this study also searched the annual reports by the Inland Revenue Board (IRB), which includes many clauses of Malaysian Tax Act (1967), as well as taxation books and newspapers that reported on tax transparency.

Step 3: Assess the Content Validity (Pre-Test)

Pretesting is a trial run to identify the strengths and weaknesses of the instrument concerning the instructions or design, items format, order, and wording (Zikmund *et al.*, 2009). Pre-testing is conducted after compilation and design the instrument. Certain adjustments need to be made at this stage in order to fit the objectives of the study. Professional assistance from experts is needed to ensure the level of difficulty in formulating questions (Kothari, 2004; Zikmund *et al.*, 2009).

In step 3 (collect data), this study adopted the third step of Mackenzie *et al.* (2011) (*Step 3: Assess the Content Validity*). According to Hair *et al.* (2010), content validity refers to whether the items in an instrument reflect the content of the construct that will be generalised and are free from errors. Similarly, Golareshani, (2003) defined content validity as the representativeness of the content or substance of the construct being measured. Mackenzie *et al.* (2011) stated that after generating the items, they should be assessed for their content validity, and two related judgements must be identified in the process when assessing content validity: (1) Whether the items are representative of the content domain of the construct, and (2) whether the items as a set are collectively representative.

Based on above experts' suggestions, the researcher conducted the following procedures: Step 1, the measurements were shown to a supervision committee comprising academic staff members who are experts in taxation and the research area to gain their feedback. Step 2, upon completion of revision of the items based on the supervision committee's feedback, the researcher verified the measures with 6 senior academic lecturers in accountancy and management from 3 prestigious universities. 2 practitioners are also involved in giving suggestions/comments about measurements. During this step, the researcher conducted 2 interviews with 2 academicians, and 2 interviews with 2 practitioners, in explaining

what the meaning of constructs/variables and the meaning of measurements in this instrument. Besides the written suggestions provided by interviewees, the researcher also recorded their suggestions directly in a notebook.

Step 4: Collect Data (Initial Data) and Purification Measure (Pilot Test)

The next pre-test step is conducting a pilot study to make sure all parts are working, and to emulate proposed procedures of the main study (Dillman, 2007). Instrument designing is a stage of the phases that ultimately results in generating information to research questions of interest. A pilot study is still required as part of the research process to demonstrate that the data collection tool will perform well and produce the required results. Pilot study is a small-scale effort to collect data from respondents to evaluate the feasibility of undertaking a full-scale research project, besides performing some field observations (Zikmund *et al.*, 2009).

The objective of the pilot test is to reveal any weaknesses in the instrument and to serve as a proxy for the data from the selected sample. The sample size of the pilot study can be from 25 to 100 elements, however, these elements do not need to be statistically chosen (Cooper & Schindler, 2014). After considering the comments and suggestions from the pre-test stage, this study conducted a pilot test with a sample size of 108 respondents, collecting data from real individual taxpayers. Chin (2010) estimated an acceptable threshold for the Cronbach's alpha value of 0.60 and above. Based on the analysis, the Cronbach's alpha for constructs were 0.88 and 0.92 for "relationship transparency" and "intention to comply", respectively, which indicate that the measures are reliable and applicable for future research. Based on the outcomes generated from the pilot testing for "relationship transparency" and "intention to comply", no changes were made to the contents of the items, and the study kept the instrument as the final version for the final test.

Steps 5-7: Collect Data (New Data) and Assess Reliability and Validity

The sampling of items is the most common source of mistakes in a test or measurement. Thus, additional data must be collected, along with a straight retest, for reliability and validity (Churchill, 1979). In terms of constructs' reliability and validity for the second time, the measures were examined through two methods: Composite Reliability (CR) and Average Variance Extracted (AVE). At this stage, 396 cases were collected through a questionnaire. In the final step, it is important to demonstrate that the measure acts as expected (Churchill, 1979). When running all constructs as one model, the reliabilities were above 0.07 for all constructs (Hair *et al.*, 2017), and some items were removed from list to improve the validity and reliability as suggested by analysis.

Mackenzie *et al.* (2011) recommended an additional procedure/test besides the reliability and validity tests which is evaluating the Goodness of Fit (GoF) of the measurement model. The researcher performed GoF tests for the scales, which provided good results as expected. The constructs worked well with their indicators as one unit.

Step 8: Developing Norms

The final stage in the process of building a scale is to create norms that can aid in interpreting the scores obtained from the scale. The quality of the norms developed depends on the sample size and the representativeness of the norms. Additionally, it is important to compare the characteristics of a person's scores with those of other individuals (Churchill, 1979). Mackenzie *et al.* (2011) emphasised that this step is critical in understanding the distribution of scores for populations and interpreting the meaning of scores. However, the sample of the population should be representative and possess similar characteristics since most social science constructs have an arbitrary scale of measurement. Therefore, the developed norms in this study could be further improved through future research that involves comparing more

samples and populations with similar individual levels of scales and objects. Construct measures are a difficult operation that requires an iterative approach for confirmation. Thus, it requires more examination across several studies, which can be time-consuming and costly (Sethi & Carraher, 1993).

Data Analysis

This study used two statistical software, namely IBM SPSS and SmartPLS. At this stage, the Exploratory Factor Analysis (EFA), descriptive statistics and missing analysis for data were conducted for all the items using IBM SPSS version 22. CR, AVE and Confirmatory Factor Analysis (CFA) were performed using SmartPLS.

Exploratory Factor Analysis (EFA)

Factor analysis is still commonly employed in today's science. Many researchers, particularly those who conduct measurement-related studies, use it as a key technique (Kline, 2016). Factor analysis is used in the development of objective tests for measuring various objects and constructs. The researcher starts with a large number of items that are then reduced based on the analysis findings until the remaining items reflect the construct and represent the area to be measured (Tabachnick & Fidell, 2014). Factor analysis of data must be performed to determine the number of dimensions (Churchill, 1979). For EFA, scholars have recommended a range of sample sizes. Generally, a sample size of at least 100 is considered poor, 200 is considered fair, 300 is considered good, and 400 to 500 is very good (Comrey & Lee, 1992). Usually, more than 300 participants is convenient for factor analysis (Tabachnick & Fidell, 2014). The majority of studies has recommended a minimum ratio of the number of respondents to the number of items in the scale ranging from 5:1 to 10:1 (Costello & Osborne, 2005). According to Costello and Osborne (2005), the required

sample size is determined by various elements in each given study, including the variables and the number of factors.

Based on the obtained results, the Kaiser-Meyer-Olkin's Measure (KMO) of sampling adequacy for performing EFA was 0.802, which is higher than the recommended threshold of 0.6, indicating that the sample is adequate. Additionally, Bartlett's test of sphericity was significant at a level of $P = 0.000$, indicating that there is substantial correlation between all items in the data (Tabachnick & Fidell, 2014). Thus,

the data is ready to be analysed using factor analysis. In social sciences, item communalities typically range from 0.40 to 0.70, and if a score is less than 0.40, it means that the item is related to other items (Costello & Osborne, 2005). In factor analysis, all related items should be loaded onto the same construct, with a minimum recommended loading score of 0.40 (Henseler *et al.*, 2009; Hair *et al.*, 2017). Table 1 shows that all the values of communalities were above 0.40, and the loading for all items was also above 0.40. Therefore, it can be concluded that all items are relevant to the expected research.

Table 1: Principal component analysis (N=396)

Items	Communalities	Component	
		INT	RT
RT1	0.440		0.650
RT2	0.586		0.723
RT3	0.700		0.826
RT4	0.728		0.853
RT5	0.670		0.816
RT6	0.464		0.662
RT7	0.389		0.548
INT1	0.817	0.884	
INT2	0.831	0.902	
INT3	0.801	0.890	
INT4	0.609	0.756	
INT5	0.766	0.870	

Note: RT=Relationship Transparency, INT=Intention to comply
Only values >0.40 are shown in table

Confirmatory Factor Analysis (CFA)

CFA is a statistical technique that focuses on the specification, evaluation and validation of measurement models for latent variables (Kline, 2016). It allows researchers to test and verify a pre-selected factor and its indicators (Hair *et al.*, 2017). In addition to specifying the factor structure, CFA is a more rigorous test of convergent validity and discriminant validity than the traditional multi-method analysis (Kline, 2016). Before beginning to evaluate the constructs, it is important to review the different

types of construct measurements. In this study, the variables under examination were evaluated using multiple indicators. To fully assess the study model, it is necessary to identify the types of construct measurement being used. Construct measurements can be either reflective or formative, depending on the types of study and the sample being studied. Hair *et al.* (2017) provided a definition for these two types of measurements. Reflective measurement is a measure that designed to represent the

variable in which the direction of the arrows comes from the construct to its indicators. The opposite of that is formative measurement which is a measure that is designed to represent the variable where the direction of the arrows comes from the indicators to the construct. Additionally, in reflective measurement, the indicators are interchangeable, whereas in formative measurement, they are not. In this study, all the indicators for the two constructs are reflective, therefore, the components of analysis of reflective model will be provided as suggested by Hair *et al.* (2017).

Convergent validity can be defined as to which extent the empirical measures reflect the real meaning of the concept (Kumar, 2011). Convergent validity was evaluated using composite reliability and AVE while discriminant validity was evaluated using Fornell and Larcker's criterion (Hair *et al.*, 2017). As shown in Table 2, the composite reliability values are greater than 0.7, indicating that the internal consistency of items is effective in measuring the constructs as predicted. Besides, AVE values are more than 0.5, indicating that constructs account for more than half of the variance.

Table 2: Construct's composite reliability and AVE

Construct	No. of Items	Composite Reliability	AVE
RT	7	0.895	0.551
INT	5	0.900	0.752

Note: RT=Relationship Transparency, INT=Intention to comply

The evaluation of discriminant validity is the second criterion for assessing the measurement model. Discriminant analysis is used to determine if there is any overlap among variables and to explain the differences between constructs (Tabachnick & Fidell, 2014). The

scores in Table 3 show that the values of each construct may interpret their indications more than the values of other constructs' indicators. Therefore, the results show that the defined constructs have appropriate discriminant validity by this criterion.

Table 3: Fornell-Lacker criterion

Construct	No. of Items	RT	INT
RT	7	0.742	0.323
INT	5	0.323	0.867

Note: RT=Relationship Transparency, INT=Intention to comply

With regard to model fit, Hair *et al.* (2017) proposed a group of criteria to evaluate the model in PLS-SEM namely: First, the level of the R^2 value, and second, the f^2 effect size. The scores $R^2 = 0.414$ and $f^2 = 0.085$ indicate that the constructs reflect the model's predictive power at sufficient level of explanation. Based on the final analysis for the two constructs, the list of items after the final analysis was attached in Appendix B and Appendix C.

Summary of Steps

Below is the flowchart outlining the steps for developing measures, as proposed by Churchill (1979). Figure 3 presents the key tests and analyses that were conducted during each of the eight steps as previously discussed in this paper.

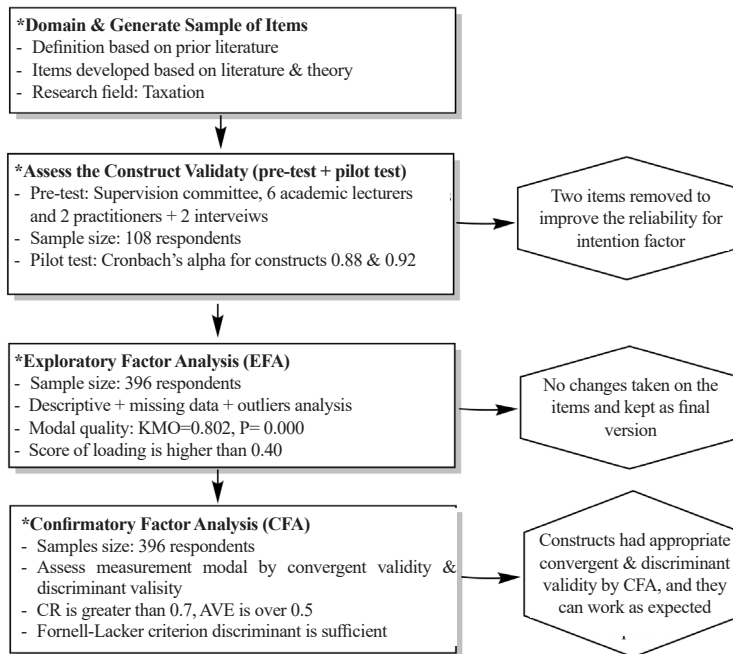


Figure 3: Summary of the steps conducted during scale development (by author)

Discussion

This paper has presented and discussed the steps taken to develop measures for the constructs of “relationship transparency” and “intention to comply” based on the tax compliance literature. The measures were assessed using statistical analyses according to Churchill’s approach, and the results indicate that the measures for both constructs were reliable and valid.

Eggert and Helm (2003) measured “relationship transparency” but it was between vendors and customers in marketing. In taxation, prior studies (e.g., Siahaan, 2013; Adeyeye & Otusanya, 2015; Al-Maghrebi, 2017; Kiow *et al.*, 2017; Noked, 2018) have investigated/measured the government’s transparency and tax transparency with individual behaviour. However, none of them investigated/measured the “relationship transparency” in between tax authority and taxpayers toward voluntary tax compliance. The preliminary findings of the current study reveal that the measures have a good reliability in taxation, implying that cross-tax research and comparisons between related

parties may be conceivable. Further research is needed to determine if the measurement models are invariant across management and accounting domains. The validity tests conducted in this study suggest that a high level of transparency in the relationship between tax authorities and taxpayers may positively influence taxpayer compliance. Such measures could also enable tax authorities to adopt new taxation policies and better communicate them to taxpayers.

The scales developed in this study exhibit both discriminant and convergent validity, with a clear factor structure and high loadings. The measures are concise and easy to understand, with words ranging between 8 and 16. Furthermore, the instrument has been shown to surpass generally accepted standards for validity and reliability. The instruments developed in this study may be used independently or in combination to investigate the causes and effects of tax issues. Although the findings are promising, further confirmatory studies are necessary to validate the conclusions reached

in this research. This paper developed a rational and scientific measures of “relationship transparency” and “intention to comply”. These measures are more accurate and comprehensive compared to other measures found in the literature, and they have successfully passed reliability and validity tests.

Ultimately, the validated measurement instrument presented in this paper is beneficial for researchers who are interested in conducting research related to individual tax compliance behaviour. Additionally, this instrument can be used to assess the state of tax compliance in the firm sector to test expected hypotheses of model relationships with minimal revisions. In addition to the theoretical and empirical contributions of this study, practically this research can provide useful insights for tax authorities to improve their policies particularly in their relationship with taxpayers and to develop the designed initiatives for increasing the tax income.

Conclusion

Construct measuring is a challenging process that requires step-by-step approach. It is a time-consuming, and expensive learning process that can be completed when it is stretched out over multiple studies. This study believes that the developed set of measures for “relationship transparency” and “intention to comply” generally satisfies the criteria and provides a stronger basis for further theoretical and empirical research. A theoretical rationale is provided for the two constructs, and the instrument was developed to operationalise the main objective of constructs, so, it is applicable in tax compliance. The final instrument, listed in Appendix B and Appendix C satisfies the goals indicated earlier in the article. The instrument of variables is short and easy to use, one of the scales have seven items while the other has five items. Care was made during item generation to ensure that the content domain of the constructs was adequately addressed.

Limitations and Future Research

Like any study, this study has limitations. The construct measure was supported by strong statistical results produced using CFA. However, future studies should examine the construct measures. The former results can be included for further validation through different sample because the data of this study was collected from only taxpayers’ perspectives. Perhaps future research can collect data from tax officers and agents. Despite these limitations, as stated in the conclusion, our study adds to the body of knowledge and theory. We particularly expect that the measurement scales produced here will serve as a platform for more consistent tax compliance studies. The number of empirical studies on tax matters is expanding all the time and moving forward requires dependable and credible scales.

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Appendix A: Constructs measures for pilot test

Relationship Transparency						
		Strongly Disagree			Strongly Agree	
1	Inland Revenue Board's (IRB) instructions, rules and procedures appear to be transparent.	1	2	3	4	5
2	IRB gives good cooperation when I need information about taxes.	1	2	3	4	5
3	I am well aware of IRB's strategic goals.	1	2	3	4	5
4	I am well aware of IRB's organisational structure.	1	2	3	4	5
5	I am well aware of IRB's staff technical abilities.	1	2	3	4	5
6	I exchange the relevant information with IRB when required.	1	2	3	4	5
7	Exchange the information between the IRB and taxpayers will reduce the misunderstanding between the two parties.	1	2	3	4	5

Intention to Comply						
		Very Unlikely			Very Likely	
1	How likely would you pay your income tax honestly?	1	2	3	4	5
2	How likely would you declare your annual income honestly?	1	2	3	4	5
3	How likely would you not hide part of your income?	1	2	3	4	5
4	How likely would you report your income fully, including your occasional income (e.g., from part time job)?	1	2	3	4	5
5	How likely would you not hide your extra income in your tax returns?	1	2	3	4	5

Appendix B: Constructs measures after final test

Relationship Transparency						
		Strongly Disagree			Strongly Agree	
1	The Inland Revenue Board's (IRB) instructions, rules and procedures appear to be transparent.	1	2	3	4	5
2	IRB gives good cooperation when I need information about tax.	1	2	3	4	5
3	I am well aware of IRB's strategic goals.	1	2	3	4	5
4	I am well aware of IRB's organisational structure.	1	2	3	4	5
5	I am well aware of IRB's staff technical abilities.	1	2	3	4	5
6	I exchange the relevant information with IRB when required.	1	2	3	4	5
7	Exchange the information between the IRB and taxpayers will reduce the misunderstanding between the two parties.	1	2	3	4	5

Appendix C: Constructs measures after final test

Intention to Comply		Very Unlikely			Very Likely	
1	How likely would you pay your income tax honestly?	1	2	3	4	5
2	How likely would you declare your annual income honestly?	1	2	3	4	5
3	How likely would you not hide part of your income?	1	2	3	4	5
4	How likely would you report your income fully, including your occasional income (e.g., from part time job)?	1	2	3	4	5
5	How likely would you not hide your extra income in your tax returns?	1	2	3	4	5