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Income Tax Compliance Behaviour in Kenya: An Application of Structural Equation Modelling

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Abstract

The main objective of this study was to use a wide range of selected variables to establish the drivers, as well as test the validity and adequacy of the Theory of Planned Behaviour (TPB) and Procedural Justice Theory (PJT) in explaining tax compliance behavior among medium and large corporate taxpayers in Kenya. A Structural Equation Model was built using survey data on 142 business tax payers. The study examines the influence of measures of perceived behavioral control, subjective norms, procedural justice measures; tax system attributes (fairness, complexity, compliance costs as well as international compatibility) on tax compliance behavior, while controlling for hypothesized influence of firm size, age, sector and legal structure. The results indicate that tax compliance behavior significantly improves with increased perceived behavioral control, but declines significantly with increase in tax compliance costs. In addition, tax compliance increases as firm size increases. Keywords: Tax Compliance Behaviour, Theory of Planned Behaviour, Income Tax, Corporate Taxpayers, Kenya

1. Introduction

In Kenya tax payers use the Self-Assessment System (SAS) to determine their taxable income and tax liability. The SAS imposes responsibility on taxpayers in terms of computing the correct tax liability and filing of returns on time. In such a system tax authorities have to commit resources to enforce compliance. Tax compliance¹ is an important government policy for Kenya as it is the single largest source of government revenue. Corporate tax payers are an important source of revenue contributing about 75% of domestic revenues collected in Kenya (KRA, 2014). Due to the significance of tax revenues, tax administrators in most countries usually put an enormous effort into understanding and dealing with noncompliance (Richardson & Sawyer, 2001). However, most of the previous tax compliance studies have focused on developed countries, mainly in the US, UK and Australia. There is still very little literature on tax compliance behaviour of African countries and more so focusing on the corporate taxpayers-notwithstanding the role played by this segment in overall tax revenue mobilization. This study examines the relationships between corporate characteristics, tax system variables (fairness, complexity, compliance costs and international compatibility) and behavioural factors (Perceived behavioural control, Attitude and subjective norms) and tax compliance behaviour.

2. Literature Review

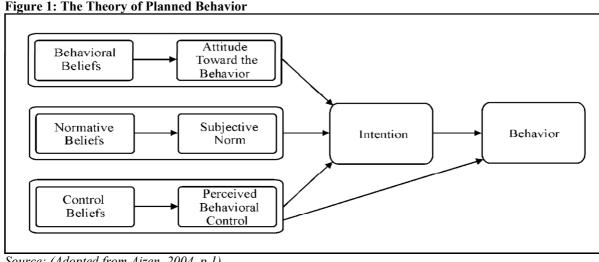
The theoretical framework of this study is based on three theories of tax compliance: the Procedural Justice Theory (PJT), Distributional justice Theory (DJT) and the Theory of Planned Behaviour (TPB). The PJT, which is attributed to Thibaut and Walker (1975) and Leventhal (1980), covers people's perception of whether the procedures and the enactment of procedures by authorities when making decisions are fair. It is argued that an individual's evaluation of the fairness of the tax authority decision-making processes and procedures will influence their acceptance of the outcome from any dispute resolution. This hypothesis has been strongly supported by a number of subsequent studies on the resolution of legal disputes (Tyler 1988). The findings suggest that a disputant who is given control of the disputes resolution process, or process control, will be more likely to consider the verdict to be fair, even when the outcome is not favourable. In particular, Leventhal (1980) identified six justice rules, and contends that most people use these rules to evaluate the fairness of the allocative procedures. Individuals will consider the allocative procedures be fair when certain criteria are satisfied, which include: consistency, accuracy, bias suppression, correctability, representation and ethicality. There is empirical evidence to show that people who feel they have been treated in a procedurally fair manner by a tax authority will be more likely to trust that organisation (Murphy 2004b), and will be more inclined to accept its decisions and follow its directions (Lind & Tyler 1988; Sapiei, Kasipillai & Eze, 2014).

The DJT postulates that individuals not only judge equity in terms of assessing the benefits they receive from their tax dollars (exchange fairness), but also by comparing themselves with others (Lamm & Schwinger, 1980). In other words, individuals compare their benefits-received-to-contributions-ratio with that of others in their reference group, and if individuals find a disparity, they find their dealings inequitable (Walster et al., 1978).

¹This study adopted the definition of tax compliance by Roth, Scholz and Witte (1989) which considers the timely filing of returns and the accurate determination and payment of tax liability. The study also included over compliance as an aspect of non-compliance.

Based on this premise, DJT assumes that distribution outcomes should be equal among those with similar contributions. In achieving fairness, the equity rule suggests that there must be relative equality between an individual's contribution and benefits. In contrast, the equality rule calls for equal distribution of rewards regardless of individual contribution. The equality rule suggests that everyone deserves to be treated equally irrespective of their contribution.

The TPB posits that attitudes, subjective norms and perceived behavioural controls are key elements in determining a person's intentions to engage in a target behaviour (for this case tax compliance), and ultimately influences the performance of the behaviour (Ajzen, 1991). It is noted that, the more a person intends to engage in a target behaviour, the more likely he will actually engage in that behaviour. Underlying behavioural intentions are attitudes towards the behaviour (beliefs about the consequences of the behaviour), subjective norms (beliefs about the normative expectations of other people), and perceived behavioural control (beliefs about the presence of factors which may facilitate or impede performance of the target behaviour), which determine both behavioural intention and behaviour. The TPB maintains that attitudes, together with subjective norms and perceptions of control, lead to the formation of behavioural intention (Ajzen, 1991 and Beck & Ajzen, 1991). Figure 1 diagrammatically depicts the TPB.



Source: (Adopted from Ajzen, 2004, p.1)

2.1 Tax compliance models

Theoretical models that explain tax compliance behaviour can be divided into two groups, non-economic and economic models. The non-economic tax compliance models on one hand identify several non-economic factors as important determinants of tax compliance, which include measures of tax fairness, complexity, subjective norms and attitudes of taxpayers (Orviska and Hudson, 2002). On the other hand, the economic models identify several factors that affect tax compliance behaviour, including opportunity to evade, deterrence, and detection rates (see for instance: Slemrod, 2007). The implication of these models is that when there are low audit probabilities and low penalties, the tendency for evasion will be higher, while if there is a high tendency for detection and penalties are severe, fewer people will evade taxes (Fjeldstad, Schulz-Herzenberg & Sjursen, 2012). However, the economic models have been criticized for predicting general substantial noncompliance beyond what is obtainable in reality (Slemrod, 2007). This study adopts a model which combines the economic and noneconomic variables in one model. The study has several independent variables including attitudes, subjective norms, perceived behavioural controls (TPB), fairness and complexity (PJT and DJT), and compliance costs.

Most previous studies on compliance have focused more on the individual rather than the corporate taxpayer. Nonetheless, several tax compliance studies Rice, 1992; Slemrod, 1997; Joulfaian, 2000) have acknowledged that prior tax compliance studies on individuals provide a formal framework for the analysis of corporate tax compliance decisions. The few studies which have been conducted on corporate tax payers have concluded that non-human factors applicable to corporate taxpayers need to be considered. Factors such as business profile, industry and economic elements (OECD, 2004) may have an influence on corporate compliance. Rice (1992) showed that firm size and tax compliance are not positively related but that the higher the amount of a firm's turnover, the greater the reporting gap. Hanlon, Mills and Slemrod (2007) notes that firm size is positively correlated with non-compliance. However, combined with other information, corporate tax noncompliance is U shaped, suggesting that medium-sized companies have the lowest rate of non-compliance. Blackwell (2000) argues that larger and older firms with less complicated tax situations are more compliant than

firms that are smaller, younger and have more complicated tax situations. This study examines four demographic factors which include: size (turnover), tax liability, ownership structure and length of time the company has been in business. In this study we hypothesize that there is a relationship between corporate characteristics (firm size, age, sector and legal structure) and compliance of corporate taxpayers; that there is relationship between business size and compliance of corporate taxpayers; that there is relationship between business age and compliance of corporate taxpayers; that there is a negative relationship between business tax liability and compliance of corporate taxpayers.

3. Methodology

The population for this study will include two categories of tax payers; large and medium tax payers.¹ As at 1st May 2016 1,315 companies were registered as large tax payers and 1,538 companies registered as medium sized tax payers. In terms of sampling, the technique adopted in this study is stratified sampling, where a sample of 200 companies is used, from two main strata which are defined from the categories of firms; large and medium-sized private firms. The choice of 200 firms is motivated by the choice of the modelling and analysis strategy that the study intends to use, i.e. the structural equations modelling that performs best with over 200 cross sections (Farrington, 2009). In this regard, and based on the proportions of the firms in the total population, the study shall seek to obtain responses from 92 large-sized firms and 108 medium-sized firms². Relevant primary data was collected using a semi-structured questionnaire.

The study adopts Structural Equation Modelling (SEM) for analysis pioneered by Jöreskog (1973). The approach is argued to be appropriate for testing relationships among multiple independent and dependent constructs (Gefen, Straub, & Boudreau, 2000). The technique involves concurrent examination of both the measurement and structural components of a model by testing the relationships among multiple independent and dependent constructs. This study has several independent variables (determinants of tax compliance) which are not observable and it also has a dependent variable (tax compliance) which will be measured using several constructs, SEM analysis becomes the ideal method for analysing the quantitative data. The choice of SEM is also supported by a number of reasons which are desirable for this study. For instance, Fornell (1982) observe that SEM allows researchers to explicitly model measurement error for observed variables³; incorporate abstract and unobservable constructs (latent variables) measured by indicators; simultaneously model relationships among multiple predictor and criterion variables; and combines and test of a priori knowledge and hypotheses with empirical data. In addition, SEM is able to express complex variable relationships through hierarchical or non-hierarchical, and recursive or non-recursive structural equations to present a more complete picture of the entire model.

There are two types of variables in SEM: the measured (observed / manifest) variables or indicators and factors (latent variables/ constructs). The basic idea is that a latent variable or factor is an underlying cause of multiple observed behaviours. Factors are weighted linear combinations that are created by the researcher and represent underlying constructs that have been discovered. Variables and factors in SEM may be classified as either "independent" or "dependent" variables; a classification that is commonly based on a theoretical causal model that may be formal or informal. This model generally assumes multivariate normality and linearity of relationships between variables⁴. It is divided into two parts which represent stages in the analysis; the measurement model and the structural model. A SEM model facilitates the evaluation of the measurement and structural models in a single systematic and comprehensive analysis (Gefen et al., 2000 and Barroso et al., 2010). This allows measurement errors of the observed variables to be analysed as an integral part of the model and factor analysis to be combined in one operation with the hypothesis testing (Gefen et al., 2000).

4. Discussion of results

Based on the stratified sample of 200 participants, a total of 142 questionnaires were duly filled and returned. This represents 71 percent response rate, which is high compared with other studies that deal with tax compliance studies which are considered a sensitive subject.(Neuman, 2006; Tran-Nam and Karlinsky, 2008). Due to this, there is limited need to account for non-response bias in this study. As such, data screening was done by checking for completeness and consistencies.⁵ Apparently, no observation had more than 10 missing data

 $^{^{1}}$ KRA defines large tax payers as those with an annual turnover of \$.7.50million and above and provides a comprehensive list of all large companies. A medium tax payer company is one with an annual turnover of between \$3 million and \$7.50 million per annum

² The sample of large firms to be targeted for the study is obtained by multiplying the proportion of large firms in the population by 200, i.e. (1,315/2853)*200 which yields 92 firms. Similarly, Medium-sized firms sample is obtained by multiplying their proportion in population by 200.

³ Unlike Path analysis methodology that assumes all variables are measured without error.

⁴ This, however, does not completely bar one from including powers of variables to test polynomial relationships.

⁵ In particular, consistency checks were conducted by comparing and cross-checking the responses to similar questions. This examination revealed that very few items were overlooked or disregarded and consistencies in responses were apparent. The variables were also checked

points, posing limited danger to unbiasedness of results. In this case, all the observations were used for analysis.

Despite the fact that SEM analysis does not require data to display certain assumptions underlying most multivariate techniques, it is necessary for all parametric statistical techniques to assess normality and the presence of outlier observations. Here, normality test was performed by evaluating skewness and kurtosis as in Pallant (2011). Results on descriptive statistics presented in Table A.1 in the appendix show that a majority of the skewness and kurtosis were within the acceptable range of +/- 2. However, for a large sample size, the influence of excess kurtosis or skewness is minimal on results (Hair et al., 2006). But even with this, SEM analysis is robust and more tolerant of the violations of normality assumption (Smart, 2006). An extreme value analysis was also done to ascertain the existence and potential impact on estimation results (Pallant, 2011). The 5 percent trimmed means statistic is used as a threshold to assess whether any extreme values are distorting the results. The top and bottom 5 percent of the extreme cases are removed from analysis. The results show that a majority of the variables have their mean values not significantly different after trimming. Data description through an analysis of the mean, standard deviation, and min/max scores therefore followed (Table A.1 in the Appendix).

4.1Model Evaluation Results

This study adopts the validation guidelines provided in literature (Straub et al., 2004; Chin, 2010; Gotz et al., 2010; and Smart, 2012), where the measurement models are subjected to four main tests, including indicator reliability (loadings), construct reliability (composite reliability), convergent validity (average variance extracted (AVE) analysis and discriminant validity (square root of AVE and loadings and cross loadings analysis). These validity and reliability tests provide some level of assurance that the survey items are capturing the constructs that they are designed to capture.

Initially, all measures were included in the models and the reliability of individual indicators/ measures were evaluated by examining the loadings of each measure. A commonly accepted minimum threshold for loadings is 0.707 which technically implies more shared variance between the constructs and its measures than error variance (Hulland, 1999; Barroso et al., 2010; and Gotz et al., 2010). A majority of the measures used in the study exceeded the more stringent cut off threshold of 0.707. Composite reliability as a measure of construct reliability is assessed using measures of Cronbach's alphas. Its index ranges between 0 (indicating completely unreliable) to 1(for perfect reliability). The acceptable reliability threshold is 0.6 (Gotz et al., 2010; Urbach &Ahlemann, 2010). The Cronbach alpha measures for all constructs (except PBC, procedural justice, Exchange Fairness and Horizontal fairness) as used in the study exceeded the acceptable threshold of 0.6, thus establishing construct reliability for subjective norms, tax compliance costs, complexity (statutory, legal and administrative perspectives), procedural fairness and international compatibility.

The next step was to examine convergent validity of the measurement model using the Average Variance Extracted (AVE). The results of AVE tests show that all the average variances extracted, except for statutory complexity measures, were above the acceptable level of 0.50. As to whether the AVE measure for statutory complexity of 0.480 is accepted or not depends on the test for discriminant validity (Chin, 2009). Discriminant validity seeks to establish the extent to which a given construct is different from other constructs in the model (Gefen & Straub, 2005). It is confirmed when each measurement item correlates weakly with all other constructs except for the one to which it is theoretically associated. It is primarily assessed by comparing correlations of measures within and across constructs in the model i.e. by examining the loadings and cross loadings matrix.¹ It is ascertained when the measurement items load highly on their theoretically assigned construct and not highly on other constructs (Gefen & Straub, 2005). However, there is no universally accepted threshold to establish discriminant validity. But, it is commonly accepted in literature that all loadings of the measurement items on their assigned constructs or latent variables should be larger than any other loadings (Gefen & Straub, 2005; Chin, 1998; Chin, 2010, and Urbach & Ahlemann, 2010).

In this study, the loadings and cross loadings were generated by a correlations matrix of the measures used in the study, whose results are provided in Table A.2 in the appendix. The results show that all the measures loaded higher with other measures within their intended construct than with other measures of different constructs. There were, however, a few exceptions. For instance, perceptions_13 loads higher on procedural justice construct (with a loading of 0.269), on Administrative Complexity construct (0.227) than on its own Subjective norms construct; Percetions_5 loads higher on procedural justice (0.308) and international compatibility (0.339) constructs on its own; intcomp_3 loads more on all other constructs (except Horizontal fairness construct) than within its own international compatibility construct. In addition, Intcomp_7 loads more with statcomp (0.281) and legalcomp (0.254) constructs than its own international compatibility construct. Finally, complexity_1 and complexity_2 load more highly with administrative complexity construct (0.218 and

for missing observations. The idea was to isolate variables with more than 10 missing observations.

¹ Cross loadings are derived by correlating the component scores of each latent variable with both their respective block of indicators and all other items included in the model (Chin, 1998).

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0.331, respectively) than with their own statutory complexity construct.

Collectively, the reliability and validity tests above confirm the overall quality of the final measures used in this study. In particular, the test statistics indicate that the component measures are reliable, internally consistent and have both convergent as well as discriminant validity. In this regard, the measurement model is therefore acceptable for structural model analysis.

4.2 Structural Model Estimation and Evaluation Results

The structural model illustrates the relationship between the different latent variables / constructs that were generated and hypothesised based on TPB. In evaluating the structural model's predictive power, measures of R-squared and path coefficients between constructs are analysed. The path coefficients indicate the size, direction and significance of the statistical relationship between any two constructs (Hair et al., 2006). A summary of the assessment of the structural model is presented in Table 1. The results show each independent construct's effect on the corresponding dependent constructs, the path coefficients and standard errors as well as the coefficients' respective levels of significance. Model I-IV, show a summary of the different specifications of the tax compliance structural model, respectively controlling for firm size (measured by total turnover), sector within which each firm operates, firm legal structure as well as how long the firm has been in existence (i.e. firm age). We earlier hypothesized that these firm specific characteristics can potentially influence tax compliance behaviour.

	Model 1	Model 2	Model 3	Model 4									
Dependent Variable : Tax Con	mpliance ¹												
Independent variables	Path Coefficients												
•	-0.3517	-0.2892	-0.2627	-0.2109									
Procedural Justice	(0.3370)	(0.3185)	(03068)	(0.3094)									
	-0.1103	-0.1202	-0.0985	-0.0873									
Legal Complexity	(0.1239)	(0.1199)	(0.1246)	(0.1267)									
	-0.2421**	-0.2499**	-0.2503**	-0.2474**									
Compliance Costs	(0.1182)	(0.1166)	(0.1191)	(0.1209)									
	0.0583	0.0658	0.0752	0.0646									
Procedural Fairness	(0.1120)	(0.1084)	(0.1067)	(0.1041)									
Perceived Behavioural	0.3679**	0.3638**	0.3757**	0.3592**									
Control	(0.1539)	(0.1506)	(0.1472)	(0.1504)									
	0.3971***	0.4201***	0.4281***	0.4057***									
Firm Size	(0.1031)	(0.0968)	(0.0975)	(0.1055)									
		0.1434	0.1557	0.1510									
Firm Sector		(0.0968)	(0.0997)	(0.9817)									
			-0.1151	-0.1431									
Legal Structure			(0.1069)	(0.1195)									
				0.1007									
Age				(0.0836)									
Average Communality	0.393	0.393	0.392	0.392									
Average R-Squared	0.397	0.397	0.396	0.396									
Goodness of Fit Measure	0.395	0.395	0.394	0.394									

 Table 1: Summarized Results Estimation and Evaluation of the structural Model

Notes. The symbols *, ** and *** represent 10%, 5% and 1% levels of significance, respectively. Figures in parentheses are respective coefficient standard errors.

Model I-IV controls for firm size (measured by total annual turnover) in the compliance behaviour structural model. The results provide evidence that measures of compliance costs and perceived behavioral control as well as firm size are the only significant variables that affect tax compliance behaviour. Specifically, an increase in tax costs reduces tax compliance (coefficient of between -0.2421 and -0.2503 across the four models). However, an increase in perceived behavioral control (which implies infrequent occurrence of opportunities that would compel firms to underreport income or lack of financial pressure, and / or infrequent episodes of financial distress) improves tax compliance behaviour among corporate taxpayers in Kenya (coefficient of between 0.3592 and 0.3757). Both of these constructs are significant at 5% level of significance. Similarly, as firm sizes increase there is a tendency for the firms to be more compliant. This variable has a coefficient of between 0.3971 and 0.4281 and is significant at 1% level of significance across all the four models.

¹ An increase in tax compliance implies more evidence of compliance.

The rest of the variables, despite the fact that their direction of influence on compliance behaviour was as expected, were found not to be significant.

Based on the path coefficients, the strongest measure of cost that explains compliance cost is related to dealing with complexity of tax laws (cost_3), with a coefficient of 0.83 followed by costs related to general compliance and dealing with regulatory tax requirements of KRA (cost_8) whose coefficient is 0.80. The rest of the cost measures have coefficients ranging between 0.50 and 0.77. This is reflected across the four models. Based on these results, the study therefore concludes that the key drivers of compliance costs that eventually affect compliance behaviour originate from the tax authority and are specifically incurred on understanding complex tax laws as well as ensuring that firms meet the regulatory tax requirements of KRA.

From the measurement model of the PBC construct, there are three measures that capture: chances of underreporting income in case of receipt of income not subject to third party reporting, when a firm faces a financial pressure and the frequency of occurrence of financial distress. From the results, all the measures were significant at 1% level of significance but their path coefficients differ from one measure to another. The largest path coefficient is borne by the measure of PBC that captures the incentive to underreport income if an enterprise is frequently faced with a financial distress (0.59) followed by when opportunity of underreporting when there is a financial pressure (0.52) then finally when a firm receives income that is not subject to third party reporting. From the results of the four models, the study can conclude that the most important measure of PBC that has the strongest influence on compliance behaviour is when firms are frequently faced with financial distress. It is therefore not so much about occurrence of financial distress but how often the distress circumstances occur that significantly influences firms' compliance decisions.1

The goodness of fit (GoF) test was also conducted and a global goodness of fit index for validating the research model was computed based on Tenenhaus (2004). The index accounts for the performance of both the measurement and structural model; providing a single measure for the overall predictive power of the causal model (Tenenhaus, 2004 & Tenenhaus et al., 2005). The average measure of variability (R-squared) ranged between 0.397 and 0.396 across all the four models. In this regard, the global GoF index, range between 0.395 and 0.394. For an exploratory study, these results indicate that the models being examined are significant since their respective GoF indices are above 0.3; the empirically recommended minimum for an exploratory study to be described as adequate (Chin, 2009, Tenenhaus et al., 2005). This implies that the quality of models used for this study is generally within acceptable limits. From the GoF results, we can infer that the combined effect of the constructs account for slightly over 39 percent of variations in tax compliance behaviour among medium and large corporate taxpayers in Kenya.

5. Conclusion

A functional structure made up of holons is called holarchy. The holons, in coordination with the local environment, function as autonomous wholes in supra-ordination to their parts, while as dependent parts in subordination to their higher level controllers. When setting up the WOZIP, holonic attributes such as autonomy and cooperation must have been integrated into its relevant components. The computational scheme for WOZIP is novel as it makes use of several manufacturing parameters: utilisation, disturbance, and idleness. These variables were at first separately forecasted by means of exponential smoothing, and then conjointly formulated with two constant parameters, namely the number of machines and their maximum utilisation. As validated through mock-up data analysis, the practicability of WOZIP is encouraging and promising.

Suggested future works include developing a software package to facilitate the WOZIP data input and conversion processes, exploring the use of WOZIP in the other forms of labour-intensive manufacturing (e.g. flow-line production and work-cell assembly), and attaching a costing framework to determine the specific cost of each resource or to help minimise the aggregate cost of production.

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¹ The rest of the other measurement models are not discussed since they are not significant drivers of compliance behaviour.

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APPENDICES

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis				
								Std.		Std.			
1 . 1	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Error	Statistic	Error			
admincomp_1	142	1	7	3.74	2.01	4.04	0.14	0.20	-1.31	0.40			
admincomp_2	142		7	3.80	2.00	4.01	0.07	0.20	-1.31	0.40			
admincomp_3	141	1	7	4.01	1.92	3.69	0.06	0.20	-1.20	0.41			
admincomp_4	142	1	7	6.20	1.24	1.54	-1.93	0.20	4.02	0.40			
admincomp_5	142	1	7	6.34	1.25	1.57	-2.63	0.20	7.36	0.40			
admincomp_6	142	1	7	5.45	1.78	3.17	-1.16	0.20	0.42	0.40			
age	142	2	115	25.04	21.85	477.36	1.98	0.20	4.68	0.40			
BEHV1	142	1	6	3.56	1.80	3.24	0.13	0.20	-1.41	0.40			
BEHV2	142	1	2	1.11	0.32	0.10	2.48	0.20	4.19	0.40			
BEHV3	142	1	5	4.77	0.65	0.42	-3.92	0.20	17.86	0.40			
BEHV4	140	1	7	1.75	1.22	1.50	2.23	0.21	5.90	0.41			
BI1	142	1	3	2.21	0.96	0.92	-0.44	0.20	-1.79	0.40			
BI2	139	1	2	1.26	0.44	0.19	1.11	0.21	-0.77	0.41			
BI3	139	2	6	2.70	1.08	1.17	1.64	0.21	2.02	0.41			
BI3	141	1	6	2.40	1.20	1.44	0.63	0.20	0.10	0.41			
BI4	116	1	8	3.55	2.51	6.28	0.43	0.23	-1.30	0.45			
cost_1	141	1	8	4.48	2.47	6.08	-0.25	0.20	-1.31	0.41			
cost_2	141	1	8	4.80	2.45	6.00	-0.38	0.20	-1.21	0.41			
cost_3	141	1	8	4.38	2.44	5.95	-0.08	0.20	-1.37	0.41			
cost_4	141	1	8	4.13	2.31	5.31	0.13	0.20	-1.26	0.41			
cost 5	141	1	8	5.57	2.17	4.70	-0.82	0.20	-0.39	0.41			
cost 6	141	1	8	4.28	2.29	5.25	-0.08	0.20	-1.22	0.41			
cost 7	141	1	8	4.42	2.35	5.53	-0.18	0.20	-1.31	0.41			
cost 8	141	1	8	4.29	2.64	6.95	-0.04	0.20	-1.52	0.41			
EF 1	142	1	7	4.92	1.95	3.81	-0.49	0.20	-0.90	0.40			
EF 2	142	1	7	4.76	2.01	4.06	-0.43	0.20	-1.02	0.40			
EF 3	142	1	7	5.13	2.17	4.73	-0.87	0.20	-0.67	0.40			
HF 1	142	1	7	5.25	1.70	2.90	-0.76	0.20	-0.05	0.40			
HF 2	142	1	7	4.54	2.24	5.02	-0.37	0.20	-1.30	0.40			
HF 3	142	1	7	3.68	2.52	6.35	0.23	0.20	-1.64	0.40			
Intcomp 1	117	1	7	3.00	1.95	3.79	0.39	0.22	-1.20	0.44			
Intcomp_10	116	1	7	5.48	1.41	1.99	-1.17	0.23	1.14	0.45			
Intcomp 2	117	1	7	4.21	1.73	2.99	-0.04	0.22	-0.75	0.44			
Intcomp 3	117	1	7	5.33	1.28	1.64	-0.95	0.22	1.77	0.44			
Intcomp 4	117	1	7	3.01	1.91	3.66	0.52	0.22	-0.93	0.44			
Intcomp_5	116	1	7	3.66	1.78	3.17	0.15	0.22	-0.98	0.45			
Intcomp_6	115	1	7	4.43	1.70	2.97	-0.43	0.23	-0.67	0.45			
Intcomp_7	116	1	7	3.59	1.78	3.18	0.18	0.23	-0.82	0.45			
Intcomp_8	116	1	7	3.74	1.88	3.55	0.13	0.23	-0.98	0.45			
Intcomp 9	116	1	7	5.13	1.55	2.41	-1.04	0.23	0.63	0.45			
legal structure	142	2	12	2.89	1.96	3.83	2.43	0.20	5.39	0.40			
Legalcomp_1	142	1	7	3.78	1.55	2.41	-0.01	0.20	-0.36	0.40			
Legalcomp_1 Legalcomp_2	142	1	7	4.25	1.50	2.41	-0.01	0.20	-0.36	0.40			
Legalcomp_2 Legalcomp_3	142	1	7	4.23	1.30	2.20	-0.14	0.20	-0.28	0.40			
Legalcomp_4	142	1	7	4.39	1.47	2.17	-0.44	0.20	-0.08	0.40			
Legalcomp_5	142	1	7	3.78	1.30	3.89	-0.08	0.20	-0.02	0.40			
	142	1	7		2.18	4.73	-0.12	0.20		0.40			
Legalcomp_6 Legalcomp 7	142	1	7	3.55 4.87	2.18	2.95	-0.62	0.20	-1.46 -0.32	0.40			
		-	7										
PBC_1	141	1		5.88	1.65	2.71	-1.19	0.20	0.15	0.41			
PBC_2	141	1	7	5.23	2.19	4.78	-0.70	0.20	-1.15	0.41			
PBC_3	141	1	7	5.86	1.82	3.29	-1.40	0.20	0.64	0.41			
PENAL_1	142	1	6	1.77	0.95	0.90	1.18	0.20	1.59	0.40			
PENAL_2	141	1	7	2.32	1.77	3.15	1.38	0.20	0.86	0.41			

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	N	M::	Maria	Maria	Std. Deviation	V	<u>61</u>		Variation	
	N	Minimum	Maximum	Mean		Variance	Skewness	Std.	Kurtosis	Std.
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Error	Statistic	Error
PF_1	142	1	7	4.00	1.65	2.71	-0.35	0.20	-0.70	0.40
PF_10	142	1	7	5.50	1.69	2.86	-1.27	0.20	0.85	0.40
PF_11	142	1	7	3.01	1.79	3.20	0.56	0.20	-0.66	0.40
PF_2	142	1	7	3.66	1.79	3.20	-0.04	0.20	-1.03	0.40
PF_3	142	1	7	4.25	1.60	2.56	-0.52	0.20	-0.26	0.40
PF_4	142	1	7	3.97	1.69	2.86	-0.26	0.20	-0.71	0.40
PF_5	142	1	7	4.40	1.60	2.55	-0.47	0.20	-0.12	0.40
PF_6	141	1	7	4.27	1.46	2.13	-0.55	0.20	0.04	0.41
PF_7	142	1	7	3.53	1.65	2.72	-0.15	0.20	-0.95	0.40
PF_8	142	1	7	3.04	1.97	3.88	0.54	0.20	-0.92	0.40
PF_9	142	1	7	5.42	1.68	2.81	-1.05	0.20	0.34	0.40
PJ1	142	1	6	4.06	1.55	2.40	-0.42	0.20	-0.86	0.40
PJ2	142	1	7	1.99	1.72	2.96	1.79	0.20	2.03	0.40
PJ3	142	1	6	1.56	1.06	1.13	2.48	0.20	6.47	0.40
sector	142	1	19	8.16	4.32	18.66	0.34	0.20	-0.61	0.40
SNORM_1	142	1	7	1.82	1.57	2.48	2.00	0.20	3.09	0.40
SNORM_2	141	1	7	3.20	2.26	5.09	0.44	0.20	-1.38	0.41
SNORM_3	141	1	7	1.81	1.50	2.24	2.25	0.20	4.69	0.41
SNORM_4	141	1	7	1.85	1.64	2.70	2.00	0.20	2.99	0.41
SNORM_5	142	1	7	1.73	1.53	2.33	2.22	0.20	3.99	0.40
statcom_1	142	1	7	3.49	2.01	4.05	0.13	0.20	-1.33	0.40
statcom_2	142	1	7	3.75	1.98	3.92	-0.01	0.20	-1.18	0.40
statcom 3	142	1	7	3.64	1.76	3.11	-0.10	0.20	-1.08	0.40
statcom 4	142	1	7	3.63	1.82	3.33	-0.06	0.20	-0.98	0.40
statcom 5	142	1	7	3.49	1.92	3.70	0.09	0.20	-1.18	0.40
tax agent reason 2	116	1	8	3.72	2.43	5.92	0.28	0.23	-1.38	0.45
tax_agent_reason_3	116	1	8	2.98	2.34	5.48	0.88	0.23	-0.55	0.45
tax agent reason 4	116	1	8	5.04	2.52	6.34	-0.41	0.23	-1.21	0.45
tax_agent_reason_5	116	1	8	6.32	2.08	4.31	-1.36	0.23	0.83	0.45
tax agent reason 6	116	1	8	6.72	1.92	3.68	-1.91	0.23	2.88	0.45
taxdifficulty_1	141	1	8	2.02	1.65	2.74	1.72	0.20	2.18	0.41
taxdifficulty 10	142	1	8	2.92	2.60	6.78	0.99	0.20	-0.59	0.40
taxdifficulty 2	142	1	8	2.47	2.04	4.17	1.24	0.20	0.32	0.40
taxdifficulty 3	142	1	8	2.89	2.17	4.71	0.83	0.20	-0.59	0.40
taxdifficulty_4	142	1	8	3.65	2.37	5.61	0.40	0.20	-1.17	0.40
taxdifficulty 5	142	1	8	3.77	2.40	5.74	0.26	0.20	-1.36	0.40
taxdifficulty 6	142	1	8	3.54	2.41	5.81	0.44	0.20	-1.14	0.40
taxdifficulty 7	142	1	8	2.91	2.22	4.94	0.92	0.20	-0.39	0.40
taxdifficulty 8	142	1	8	3.86	2.32	5.38	0.28	0.20	-1.13	0.40
taxdifficulty 9	142	1	8	2.69	2.06	4.23	0.95	0.20	-0.29	0.40
Turnover	142	1	4	2.74	1.39	1.93	-0.33	0.20	-1.78	0.40

Appendix A.2: Loadings and Cross Loadings

		Subjective Norms Perceived Behavioural Control Procedural Justice International Comp										State	itory Compl	exity		Legal Complexity				Administrative Complexity			Exchange	Fairness	Procedural Fairness							Horizontal Fairness				
										Intermo				Intenno	Complexi				Complexi				Complexi						Fairness	Fairness			Fairness	Faimess_		
				~15			n~8	~ 2	~ 3	3	5	6	7	9												t~15	2	3	4	5	6	7	8	9	15	16
	perceptio~13	1.000	_		-				-						<u>9-</u> *	7_2	928	9_1	9_0	<u>9_</u> *	7-1	9_*	927					-						-	<u> </u>	<u> </u>
	perceptio~14	0.350													<u> </u>						-				_						-				<u> </u>	-
Subjective Norms	<u> </u>	0.217		-								-													_						-				<u> </u>	-
Perceived	perceptio~ 5	-0.144			1.000							-						_	-	-					_			-			-				<u> </u>	<u> </u>
Behavioural	perception~7	-0.269										<u> </u>								_	_				_											<u> </u>
Control	perception~8	-0.158			-							<u> </u>			<u> </u>						_				_						-				<u> </u>	<u> </u>
Conta Co	perceptio~ 2	0.060	_	_		_	_	1,000								<u> </u>		_			_				_						-				<u> </u>	
Procedural Justice		0.160																		-	_				_						-				<u> </u>	-
i ioceana jusace	Intcomp 3	-0.059				_	_			1.000		-						_	-	-	-				_			-		-	-				<u> </u>	<u> </u>
	Intcomp_5	0.061			-	-0.066												_		_	-				_						-				<u> </u>	(
	Intcomp_6	0.205			-0.042	-0.072	_			-																										
International	Intcomp 7	0.184	_			-0.061	-0.069	0.187		0.041		-)							_														<u> </u>	
Compatibility	Intcomp 9	-0.075				0.139	_	-0.131						-				_			-														<u> </u>	
Company	Complexity 1	0.052	_	_	-						_			_	1.000			_		-	_				_			-							<u> </u>	
	Complexity 2	0.095			-			-0.012							0.820																					
	Complexity 3	0.160			-												1.000																			
Statutory	Complexity 4	0.096															_	1.000			_				_											
Complexity	Complexity 5	0.183								-0.258					0.186	0.248	0.360	0.740	1.000																	
	Complexity 6	-0.041	0.110	0 0.234	-0.269	-0.096	-0.202	0.189	0.096	0.120	0.297	0.089	0.25	0.23	-0.105	-0.182	-0.061	0.004	-0.039	1.000																
	Complexity_7	-0.113	-0.02	5 0.110	-0.150	-0.006	-0.202	0.183	0.014	0.014	0.183	0.124	0.25	4 0.09	0.030	-0.003	0.067	0.028	0.007	0.500	1.000															
	Complexity 8	0.020	-0.074	4 0.040	-0.063	0.034	0.026	0.118	-0.069	0.076	0.218	0.235	0.23	0.28	0.107	0.071	0.050	-0.170	-0.132	0.376	0.316	1.000														
Legal Complexity	Complexity 9	0.067	0.080	0.083	-0.095	-0.066	-0.004	-0.086	-0.056	0.275	0.345	0.34	0.25	0.32	0.095	0.05	-0.018	-0.167	-0.123	0.280	0.299	0.602	1.000													
	Complexit~13	0.146	0.133	6 0.042	-0.057	-0.253	-0.133	0.006	0.141	-0.282	-0.157	-0.14	0.12	-0.29	0.197	0.331	0.401	0.409	0.403	-0.203	0.119	-0.075	-0.076	1,000												
Administrative	Complexit~14	0.227	0.183	3 0.120	-0.091	-0.234	-0.018	0.158	0.150	-0.248	-0.112	-0.093	0.17	-0.29	0.218	0.263	0.371	0.422	0.400	-0.176	0.195	-0.076	-0.104	0.849	1.000											
Complexity	Complexit~15	0.104	0.158	8 0.145	-0.238	-0.218	-0.098	0.217	0.129	-0.229	-0.096	0.015	0.22	-0.110	0.162	0.225	0.339	0.284	0.252	0.079	0.137	0.044	-0.066	0.478	0.452	1.000										
Exchange	Fairness_2	0.181	0.163	3 0.060	-0.021	-0.148	-0.211	0.064	0.165	-0.220	-0.057	-0.083	0.00	-0.18	-0.006	0.003	0.190	0.379	0.257	-0.156	-0.164	-0.223	-0.048	0.345	0.299	0.282	1.000									
Faimess	Fairness_3	0.026	-0.063	3 -0.037	0.079	0.015	0.010	0.196	0.134	-0.184	-0.078	-0.212	-0.20	-0.12	-0.125	-0.104	-0.036	0.350	0.322	0.096	-0.038	-0.038	-0.032	0.030	0.002	0.082	0.335	1.000								
	Faimess_4	0.018	0.153	3 0.208	-0.039	-0.089	-0.093	-0.161	0.056	0.168	0.122	0.068	0.08	0.22	0.013	-0.018	0.065	0.119	0.210	0.242	0.017	0.233	0.185	-0.056	-0.051	0.003	-0.061	-0.047	1.000							
	Faimess_5	0.088	-0.060	6 -0.010	-0.037	0.002	-0.180	0.025	0.047	0.009	0.028	0.064	-0.06	4 0.06	-0.225	-0.203	0.057	-0.025	0.019	0.367	0.195	0.205	0.159	-0.082	-0.112	0.012	-0.058	0.091	0.238	1.000						
	Fairness_6	0.010	0.061	0.110	-0.156	-0.119	-0.054	0.046	0.031	0.140	0.009	0.124	0.07	0.14	-0.022	0.060	0.136	0.112	0.166	0.435	0.277	0.211	0.041	-0.003	0.011	0.197	-0.093	0.041	0.368	0.430	1.000					
	Faimess_7	0.096	0.133	5 0.169	-0.169	-0.151	-0.214	-0.084	0.027	0.131	0.008	0.083	0.14	2 0.08	0.054	0.094	0.047	0.013	0.091	0.285	0.283	0.181	0.119	0.069	0.060	0.194	-0.196	-0.178	0.432	0.390	0.650	1.000				
Procedural	Faimess_8	-0.092	-0.220	-0.121	-0.014	-0.009	-0.077	-0.061	-0.115	0.265	-0.031	0.258	0.11	0.27	-0.034	-0.053	0.031	-0.115	-0.160	0.229	0.178	0.157	0.069	-0.179	-0.213	0.003	-0.106	-0.004	0.195	0.328	0.36	0.409	1.000			
Fairness	Fairness_9	-0.126	-0.18	-0.094	-0.066	-0.013	-0.098	-0.060	-0.140	0.234	-0.015	0.284	0.11	0.305	-0.077	-0.079	-0.066	-0.201	-0.203	0.248	0.263	0.238	0.081	-0.100	-0.103	0.056	-0.186	-0.085	0.230	0.347	0.27	0.291	0.746	5 1.000		
Horizontal	Faimess_15	-0.161	-0.26	-0.24	0.184	0.198	0.156	-0.109	-0.178	0.230	0.030	0.024	-0.04	0.08	0.002	0.028	-0.076	-0.085	-0.102	0.006	-0.011	-0.141	-0.097	-0.077	-0.139	-0.107	-0.113	-0.060	-0.132	-0.060	-0.02	-0.060	0.151	0.162	1.00	
Fairness	Fairness_16	-0.128	-0.220	6 -0.180	0.112	0.222	0.100	-0.181	-0.148	0.212	0.104	0.133	0.01	0.16	0.220	0.240	-0.139	-0.230	-0.068	-0.035	0.150	0.044	0.066	-0.057	-0.147	-0.133	-0.232	-0.124	0.031	-0.008	0.04	0.071	0.080	0.178	0.368	1.00