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Improving tax compliance strategies:
Can the theory of planned behaviour predict business compliance?

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Abstract

For many taxpayers, the uncertainty inherent in the tax system makes paying taxes akin to a game of chance. Some people

& Hatfield, 2003). Tax authorities must apportion their resources to ensure optimal targeting of those taxpayers who deliberately evade whilst providing support for those who attempt to comply. In addition, tax collectors must be vigilant in ensuring fair and equitable treatment for all taxpayers and continually make efforts to improve the process in order to respond to social, economic and demographic changes in the population.

The growing demands on tax administration mean that traditional approaches to compliance management are unsustainable. This issue is particularly problematic in Australia as the population increases and immigrants from countries with different attitudes and traditions make enforcement of tax compliance through conventional methods more difficult.

Research and development in tax compliance has centred on economic theory with few practical models for managing and changing unwanted taxpayer compliance behaviour. The study reported in this paper uses self-reported data from a large scale survey used to investigate whether compliance behaviour can be predicted using a combination of predictive factors from both the domains of economics and social psychology. Once predicted, behaviour can be influenced by addressing the causal salient beliefs. Legal complexity and the effects of system obstructions will also be explored to determine the strength of intention in the success of correct tax reporting. This research will be used to improve our ability to design compliance interventions which support and guide those taxpayers who are willingly compliant. At the same time the new model will be evaluated as a tool for limiting or preventing detrimental non-compliant behaviour.

Taxation Office, 2009). However, it is debatable whether this is an effective use of resources, considering that approximately 97% of the country's revenue ($264 billion) results from voluntary contributions (Australian Taxation Office, 2009).

The Australian Taxation Office is a world leader in taxation compliance (Inspector General of Taxation, 2005; Shorten, 2011). The organisation has introduced several innovative solutions to compliance problems, such as e-tax to assist individual taxpayers with tax returns, several targeted task forces such as High Wealth Individuals (Australian Taxation Office, 2008b), The Cash Economy (Australian Taxation Office, 2008a) and Project Wickenby.[4] In addition, ideas adopted from social psychology, such as Braithwaite's (2003) compliance model, are used to aid in compliance management.

However, since tax collection became the Commonwealth's responsibility in 1946 (

make mistakes for which the individual is liable[5]. For most taxpayers, maintaining their tax affairs is akin to a game of chance: many approach it anxiously hoping their interpretation of the law is correct and assuming that the Tax Office will treat them fairly if genuine m

Further to perceived behavioural control, intention has two other antecedents: attitudes and norms. Attitudes have been shown widely in the tax compliance literature as a foremost contributor to tax compliance behaviour, positive attitudes are associated with compliance and negative attitudes with evasion (Chan, et al., 2000; Eriksen & Fallan, 1996; Hofmann, et al., 2008; Kirchler, 1999; Torgler & Valev, 2010; Vogel, 1974). Norms are also shown to exert influence over the tax behaviour through personal, social and societal references (Kirchler, 2007, pp. 58

The second new variable, Taxpayer identity is consistent with the concept of self-identity as a factor in symbolic interactionism (Tice & Wallace, 2005, p. 92). The identity is formed and continues to evolve as a response to feedback. In the case of tax compliance, the feedback is provided by the Tax Office or its representatives interacting with the taxpayer. The quality of this interaction may contribute to the changing position the taxpayer may adopt in regards to the tax authority. While similar to the concept of a motivational posture (Braithwaite, 2003), taxpayer identity is not a projection of the taxpayer's position in regards to the authority. Instead it is the relative assessment taxpayers make of themselves as good taxpaying citizens. Research in fields unrelated to tax compliance has shown that the application of the TPB has been greatly enhanced by including self-identity as an independent variable (Hagger & Chatzisarantis, 2006; Sparks & Guthrie, 1998; Sparks & Shepherd, 1992; Terry, Hogg, & White, 1999; Tittle, Welch, & Grasmick, 2008). Self-identity is a strong predictor of behaviour, particularly when the decision making framework involves self-categorisation due to socialisation (Rise, et al., 2010). Rise et al. (2010) mount a strong argument for the inclusion of self-identity in the TPB as the additional variable accounts for 6% of variance in the model when other variables are controlled. Due to the moral nature of tax compliance decision making the incorporation of a concept of self to the decision making process has great predictive potential.

The complexity of the tax system itself is shown to have a great effect on the outcome of compliance behaviour. Which is why the third variable awareness has been included in the model. In most cases, the average person cannot know whether they have been compliant (Ashby & Webley, 2008) and further to this, complexity reduces

behavioural incompatibility; scale incompatibility and category incompatibility as well as temporal instability and accuracy. Ajzen and Fishbein (2010) recommended procedures were followed with particular attention to these issues.

The behaviour to be applied to the model must have a target, action context and time and is defined for the purpose of our study as: Reporting income and deductions without errors and omissions in the 2011 income tax return was. All attitude, normative and control factors were measured at the same level of specificity.

The research was conducted in two parts: (i) a pilot study to construct the measures for the variables in the model based on salient beliefs; and (ii) a main study to provide data to test the related hypotheses and evaluate the model. Both studies used online anonymous survey instruments to provide confidence to participants that their responses would be anonymous.

A significant challenge for research into compliance behaviour is developing an appropriate measure for tax complia

hypothetical thinking. By placing an individual in a realistic setting and providing the safety of anonymous self-reporting it was anticipated that business owners would admit to selecting one of the likely options.

The methods used to evaluate the model and the coded hypotheses will now be described in detail, results from the procedures will follow with a discussion of the conclusions and the implications for tax authorities.

2. METHOD

2.1 Participants and sampling procedure

A total of 6015 business owners controlling minds[5] of small and medium enterprises were invited by postal mail to participate in the online survey. To construct the final sample a data extraction was conducted on the Tax Office client data store in July 2011. This file contained the postal[6] contact details (name of contact, role, postal address) of 5000 business entities in the $2–$250 million Total Business Income (TBI) range from all geographical locations located within Australia with only 1

2.2.2   Main study

The online survey was conducted over a six week period between 26 August and 10 October 2011. The survey instrument contained three parts: hypothetical scenarios; measurement of the TPB variables; and control measures. Backward movement through screens was disabled on the online survey instrument to prevent participants from reviewing and modifying answers based on subsequent questions.

Several controls were included in the main study relating to previously determined items which influence compliance, such as age (Wenzel, 2002), level of education (Carroll, 1992) and gender (Cullis, Jones, & Lewis, 2006; Wenzel, 2005). Additional controls for business size, structure and the position of the participant in the organisation hierarchy were included. Finally three controls for the type and amount of previous contact the participants had with the Tax Office were included: no contact, phone contact (more than once in last 12 months) and audit (in the last 12 months).

3. MEASURES

The following variables were considered in the study to evaluate the compliance behaviour model: attitude, subjective norms, perceived behavioural control, taxpayer identity, perceived cooperation by the Tax Office, intention, behaviour and awareness.

Attitude was measured with 13 items relating to salient beliefs about income tax reporting. There are no existing measures Tc A(e)-2(t)8(h)3(i)-3(e)11he st3u2313(er)-2(e

were: spouse; close friends; siblings; parents; tax agent or book keeper; accountant; and competitors.

A direct measure for the injunctive norms was constructed through the addition of two norm items. The measures for injunctive norms were calculated in a similar manner to those for attitudes. Normative belief and motivation to comply were multiplied to create normative injunctive pairs. Each normative pair was correlated with the direct measure for injunctive norms. A similar procedure was followed for the descriptive normative pairs. The two factors were then summed to provide a single measure of a second order norm construct. This combined measure produced a correlation of .326 (p<0.01) with the direct measure.

Perceived behavioural control was calculated by summing the scores from each of the four direct PCB items. This final direct measure was correlated against each of the six PCB control/belief pairs: No threat of detection or audit; Fear being punished for something you feel you have no control over; Ambiguous law or rulings; Perception of unfairness of the law; Traceable transactions; Ongoing change of tax law and tax system. Two of these (ambiguous law or rulings and traceable transactions) were significantly correlated with the direct measure. The products of these two items were summed to give the total salient belief PBC measure, which had a correlation of r=.304 (p<0.01) with the direct measure of PBC.

Taxpayer identity was measured in two parts. First, nine characteristics that would describe an ideal taxpayer were assessed on a seven-point Likert scale. These characteristics were: honesty; generosity; consideration; organisation; community mindedness; cleverness; meticulousness and hardworking and respondents were asked to score these according to agreement with the statements: strongly disagree(1) and strongly agree(7). A factor analysis was conducted using a principal axis extraction with direct oblimin rotation. Three eigenvalues were obtained when using Kaiser's criterion of 1 which explained 76.7% of the variation. The first factor was associated with personal characteristics, such as generosity, consideration, and cleverness. The second factor was related to honesty and truth. The final factor was related to instrumentality, in other words being meticulous and well organised. Participants were asked to rate identification with being an "ideal" taxpayer. This item was multiplied against the ideal taxpayer measure to give an overall score of identification with the taxpayer identity. Three resulting variables were created: Taxpayer ID characteristics, Taxpayer ID honesty and Taxpayer ID instrumentality and all variables were used in the model testing.

The perception of Tax Office cooperation was measured using a 16 item scale. The only item scored with a positive associate was the Tax Office was respectful of me as a taxpayer (=4.28). All items were factor analysed using a principle axis extraction with oblimin rotation as the items were not independent. The results showed the items loaded on two primary factors. A reliability analysis of the scale was conducted, showing an alpha value of .940 for the first factor and .914 for the second. The perception of cooperation by the Tax Office belief measures were correlated against a single item direct measure of "in my interactions with the Tax Office in the 2011 financial year I believe they have willingly tried to cooperate with me" (disagree(1):

agree(7)- seven point Likert scale). The analysis produced a significant correlation (p<0.01) of r=.584 and r=.773. The items from each of the factors were summed and then averaged to create two variables of perception of cooperation by the Tax Office. The first variable relates to customer service, perceptions of trust, acknowledgement and fairness and was called Tax Office customer service. The second factor related to the ease of use and accessibility of tools and procedural justice, therefore this second factor was called Tax Office access to services. Both of these variables were used in the model testing.

Intention was constructed as a direct measure only and incorporated the elements of willingness, expectation, intention and trying (Fishbein & Ajzen, 2010, p. 43). All items have inter-item correlations over 0.7, (p<0.01) and the combined scale revealed a high level of internal consistency .

Behaviour was constructed as a dichotomous measure of correctness (right or wrong) of compliance choices. The measure was obtained through the use of scenarios. The participant was required to select the option that most closely represents how they would respond if presented with the situation in real life.

Scenario 1 incorporated a real world difficulty encountered by many businesses when keeping good records: collecting and recording receipts of fuel spent and distances travelled by multiple employees. The scenario also introduced a contingent obstacle for compliance: which was that the employees had not kept accurate records. Participants had to decide whether or not to claim kilometres travelled based on estimates, without any evidence to support the claims. In this example a total of 400km could be claimed without receipts. The scenario had additional parameters, not all staff had travelled 400km, but all travelled over 100km and less than 800km. Participants had to decide whether to over compensate and declare nothing, or to be non-compliant by declaring an offset without evidence.

The second part to the hypothetical situation outlined in Scenario 1 was bypassed for participants who had decided to claim nothing: their responses were automatically coded 2 (correct). The remaining participants were provided with Scenario 2 which required them to respond to a question on how they would declare the kilometres if they encountered a system limitation, that is the interface of the tool prevented the correct declaration. The system in the hypothetical scenario only allowed a maximum of 400 to be entered for each employee. Participants had to choose between two options: (i) accepting the limitation and declaring 400km per employee spreading all of the kilometres across all of the employees so that it would total the amount travelled, or (ii) claiming the maximum amount for each employee regardless of kilometres travelled.

The third scenario contained no external obstacles to compliance, complexity was minimised and there were no system restrictions to influence the compliance behaviour of the participant. Participants had to make a simple decision of whether or not they would choose to enter into an exchange of goods for services arrangement
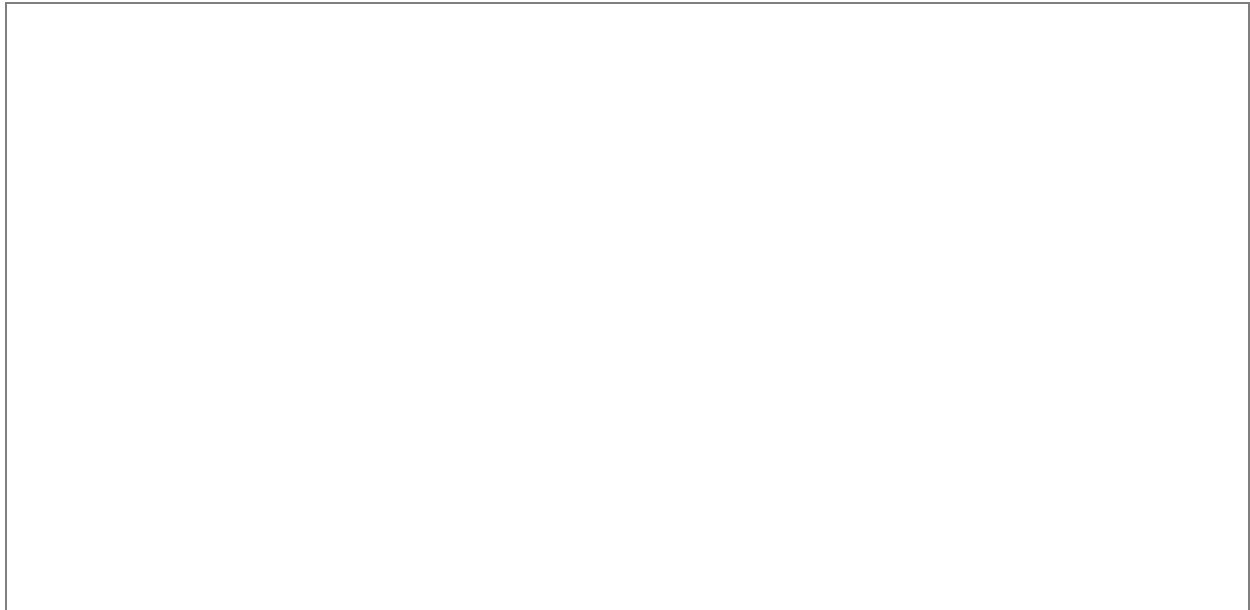
Figure 2 - The path estimation of the Compliance Behaviour Model

The following section outlines the estimation of this model from left to right in two parts: the prediction of intention based on attitude, norms, PBC, Tax Office willingness and taxpayer identity; and the prediction of behaviour (correctness) based on intention and awareness.

4.2

Table 2 - Correlations between the dependent variable intention and the predictor variables in the CBM

	DV	1	2	3	4	5	6	7
Attitude - salient beliefs	.555							
Norm –								

A sequential logistic regression was performed on the correctness variable for Scenario 1, loading both the predictors of intention and awareness. The model was significant

Table 6 shows the regression coefficients, Wald statistics, odds ratios and the 95% confidence intervals for odds ratios for each of the predictors. Both Intention(1, N=233) = 4.782, p<0.05 and awareness(1, N=233) 5.215, p<0.05 were significant.

Table 7 - Logistic regression of correctness (Scenario 3) of behaviour.

Variables in the Equation	B	S.E.	Wald	df	Sig.	Odds ratios	95% C.I. for odds ratios Lower	Upper
Intention - direct	.521	.257	4.127	1	.042	1.685	1.019	2.786
Awareness	-2.149	.533	16.285	1	.000	.117	.041	.331
Tax Office 1– customer service	.420	.187	5.057	1	.025	1.522	1.055	2.195
Tax Office 2– access to services	-.140	.182	.589	1	.443	.869	.608	1.243
Taxpayer identity 1 characteristics	.048	.028	2.877	1	.090	1.049	.993	1.110
Taxpayer identity 2 honesty	-.029	.029	.953	1	.329	.972	.917	1.029
Taxpayer identity 3 instrumentality	.011	.030	.132	1	.716	1.011	.953	1.072
Constant	-3.966	1.572	6.365	1	.012			

The greatest predictors identified by the discriminant analysis for Scenario 3 (Table 10) were: norms; attitudes towards the behav taxpayer identity; intention; and perception of the willing cooperation of the Tax Office. Several controls were also identified including: Number of directors, position in the business, and past behaviour.

Table 10- Discriminant analysis for Scenario 3

	Wilks' Lambda	F

The effect of system complexity is also evident when measuring the independent variable perceived behavioural control. The direct measure of perceived behavioural control was significant but the salient beliefs used in the final model estimation were not significant. These results may arise from the difficulty some participants had in conceptualising the factors that reduce or contribute their control of tax reporting. Thus, the salient beliefs identified through the pilot study with regards to PBC are not the ones that actually effect control.

Figure 4 illustrates that the difficulty of predicting compliance increases when a taxpayer does not have complete volitional control of his or her behaviour. At the lower left of the diagram, where there are no obstacles to performance, intention and awareness are predictive of the correctness of the compliance behaviour. Additional factors such as taxpayer identity and perceptions of cooperation also contribute to the final behaviour. When there are system obstructions, the accuracy of predicting behaviour from intention is reduced, but predictive accuracy is aided by increased awareness of the law. The taxpayer must apply effort and persistence to overcome the environmental factors which limit the performance of the behaviour. Legal complexities and jargon create further difficulty and, where this is present, awareness is a better predictor of compliance than intention. This finding is related to the resources available for the taxpayer to overcome the obstacles to compliance. The predictive validity of intention and awareness is also significantly related to the amount of disturbance created by obstacles to performance.

Figure 4 - Proportion of intention and awareness required to predict behaviour when behaviour is affected by environmental complexity

6. IMPLICATIONS FOR TAX AUTHORITIES AND FUTURE RESEARCH

Implementing changes due to findings in this research and the consequent Compliance Behaviour Model will be challenging for government and tax administrators. Essentially there are two factors that can be manipulated to increase voluntary compliance: intention to comply and effectiveness of the tax administration. Intention to comply only influences actual compliance behaviour where there is a clear

comply. This accidental non-compliance (and the negative outcomes) could be prevented by a responsive and supportive system. Taxpayers who are accidentally compliant are those who intend to evade but the system prevents mistakes either forcing compliance or increasing the difficulty in non-compliance. These taxpayers need to be exposed to interventions that affect both intention as well as ability to comply. Finally, taxpayers who are deliberately compliant are those who may well have the ability to comply but have an intention to evade. Interventions must be targeted at changing their intention and well as preventing compliance.

Figure 6 - four types of compliance behaviours showing how differing levels of intention as well as administrative effectiveness contribute to the outcome of compliance behaviour

Where obstacles to performance reduce the impact of intentions on behaviour, interventions targeted at increasing taxpayer's willing participation are likely to be inefficient and worthless. Under such circumstances, the intention of the taxpayers is less important than the role of the tax administration in improving compliance. Education and marketing campaigns are of limited value if the system is too difficult or the law is so complex that only the most highly qualified and motivated can understand and apply the interpretation to their circumstances. Therefore, where the situation has either a level of legal complexity, or has potential system obstacles, only those who have the means and resources to understand the rules and apply them are the ones who also have the ability to comply.

The administrative effectiveness necessitates both a perception of control as well as actual control to perform the desired behaviour. Where there is a perception of control

Office). Early interventions that address these areas can be used to influence beliefs about the support from the Tax Office, responsibility and trust in the system: this in turn will also affect willingness to comply.

7. APPLYING THE MODEL

The new Compliance Behaviour Model can be utilised to develop a methodology to apply compliance interventions and strategies for treating population level compliance issues. A greater understanding of the compliance issue can be obtained by first investigating the type and level of difficulties apparent in the performance of the compliance behaviour. Where components of the tax system are difficult to understand or legally complex, improved administrative design can be utised to facilitate taxpayer compliance. Where there are few environmental factors influencing the

We recommend an uncomplicated approach to improving voluntary compliance: remedy obstructions to compliance; and influence taxpayer beliefs and intentions to comply. Obstructions may include: uncertain tax positions, confusing or ambiguous tools and systems, lack of feedback on completion of tax filing and lengthy and circuitous tax administrative processes. Taxpayers must also believe that their contributions are used wisely and that they are receiving worthwhile services for their payments. Interventions that focus on these elements will be more successful in building trust with the community and enabling larger segments of the population to be responsible for their own tax obligations.

A similar conclusion has been drawn by Holmes (2011) who has made the case for the IRS handling of Large Businesses with increasing automation of systems to short circuit non-compliance – or what she has called "forced cooperation". The approach to compliance is based on a trial of the Compliance Assurance Program (CAP), which is similar to Australia's Forward Compliance Agreement approach with Large Business. This is a system that targets uncertainty, enabling taxpayers to sign off on the business compliance without further costly audits. It is also a cooperative approach that builds trust between the taxpayer and the tax authority.

8. FURTHER RESEARCH

Whilst presenting the need for the development of a new paradigm for taxpayer compliance behaviour, our investigations identify a number of additional research objectives. Our examination of taxpayer self-identity confirms that a complex relationship exists between tax officers and taxpayers. This relationship, and the impact that it has on compliance behaviour, warrants further investigation. Private sector organisations have recognised the impact that employee attitudes have on organisation profitability and customer satisfaction (Homburg, Wieseke, & Hoyer, 2009; Yee, Yeung, & Cheng, 2008). Similarly, the attitudes of public service employees will impact levels of compliance.

inability for taxpayers to make correct compliance decisions. Understanding this relationship and how to empower taxpayers whilst still providing support, will aid in increasing voluntary compliance.

9. CONCLUSION

There are no simple solutions to facilitating and removing obstructions to compliance. Design improvements come at a high cost and involve people, time and access and are considered risky to large organisations, such as the Tax Office. The

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