

Effects of Timing of Advice on Tax Planning Judgments

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Abstract: In many organizations advice is routinely given by supervisors to subordinates. The advice literature examines the effects of advice on judgment and decision making. This study extends the advice literature into a practical setting in examining the effects of the timing of supervisory advice on the judgment of subordinate tax professionals in a professional context. An experiment was conducted with 58 tax professionals from public accounting firms across Canada, performing tax planning tasks of different complexity. Supervisory advice is generally given to tax professionals before they commence tax planning tasks but the results of this study demonstrate that this practice could have detrimental effects. First, advice could be beneficial for a higher-complexity task but not for a lower-complexity task. Second, advice given before a tax professional commences a higher-complexity task is found to hinder the insightful judgments often necessary for this task but advice given after the tax professional prepares a tentative solution does not have this negative effect. This study contributes to the behavioral and advice literatures. The results of this research study should also be of interest to hierarchical organizations, including public accounting firms where supervisors routinely provide advice to subordinates performing tasks of differential complexity.

Key words: Advice, supervisor, tax professionals, hierarchical organizations, judgment

INTRODUCTION

Tax planning is an important service provided by the tax practices of accounting firms (Bonner *et al.*, 1992; Magro, 2005; Klassen and Sansing, 2006). Supervisory advice is provided to enhance subordinate's expertise, to meet perceived objectives of effectiveness and efficiency and to meet the longer term training objective (Pinto, 2015). To meet these objectives, advice is provided for all tax planning tasks and it is routinely given before the subordinate commences a task.

This study draws on the advice and accountability literatures (Kunda, 1990; Gibbins and Newton, 1994; Sniezek and Buckley, 1995; Lerner and Tetlock, 1999; Schrah *et al.*, 2006) as well as the behavioral tax literature (Cloyd, 1997; Magro, 1999; Hatfield, 2001; Magro, 2005) and interpersonal studies in accounting (Gibbins and Trotman, 2002; Nelson and Tan, 2005; Peecher *et al.*, 2010) to frame the arguments.

An experiment was conducted with 58 tax professionals to examine if the timing of when advice is given affects tax professional's judgment in the performance of tax planning tasks of different task complexity. The advice was provided to participants before the commencement of the task ("pre-advice") or after the tax professional had developed a tentative solution ("post-advice") and there are four experimental conditions: complexity (2)×Advice (2). The dependent

variable, measured by technical adequacy, tax insights (which extend the tax plan beyond technical adequacy) and signs of confusion was independently evaluated by two senior tax professionals both experienced in reviewing tax plans in the course of their practice.

The results of this study provide four important insights. First, pre-advice can have negative effects in the performance of for lower-complexity tasks with detrimental effects on the technical adequacy of the tax plans as it disrupts the subordinate's usual processing of information. Second, this study suggests that post-advice is more beneficial for a higher-complexity task as pre-advice limits the professional's insightful judgments and hindered the higher quality, beyond technical adequacy, that was potential in such tasks. Third, advice from a supervisor carries an implication that is should be followed (Tetlock, 1983; Kunda, 1990; Gibbins and Newton, 1994; Sniezek and Buckley, 1995; Lerner and Tetlock, 1999). The results suggest that pre-advice led to unnecessary introspection and diversions (Wilson *et al.*, 1989; Wilson and Schooler, 1991; Lerner and Tetlock, 1999), resulting in confusion. The timing of the advice is important as the results indicate that pre-advice causes more confusion than post-advice for either task. Fourth, for the lower-complexity task, post-advice has less detrimental effects than pre-advice and given that advice may be necessary to meet a firm's long term training objectives, post-advice may be more suitable.

This study makes several valuable contributions. First, it adds to the behavioral tax literature in exploring the interactive effects of the timing of advice and task complexity on judgment. This study extends prior research (Pinto, 2015) that examined the effects of subordinate tax professionals receiving supervisory advice or not receiving supervisory advice in the preparation of tax planning tasks of different complexity. Second, it extends the advice literature into a practical setting. Third, the results are relevant to hierarchical professional firms where supervisory advice is routinely given to subordinates.

Theory: The advice literature examines the social aspects of decision making, in particular how decision processes change when advice is received from another person and the effects of advice in hierarchical organizations (Sniezek and Buckley, 1995; Yaniv, 2004; Bonaccio and Dalal, 2006; Schrah *et al.*, 2006). Sniezek and Buckley (1995) study decision making by students with differentiated roles, in a business setting and find that the timing of when advice is provided affects decisions and choices. The audit and tax literatures demonstrate that hierarchical structures and role differentiation are important contextual features of public accounting firms that can affect the judgment of accounting professionals (Gibbins, 1984; Gibbins and Newton, 1994; Glover, 1997). The preparation of files and the subsequent review occur with interactions and information flows up and down the firm's preparer-manager-partner hierarchy (Gibbins and Trotman, 2002) and these features extend to the firm's tax practices. The advice provided by a supervisor to the subordinate tax professional occurs in this hierarchical and interpersonal context (Hatfield, 2000; Gibbins and Trotman, 2002; Nelson and Tan, 2005; Correll *et al.*, 2007; Bobek *et al.*, 2010). In addition, the audit literature finds that an intervention of supervisors who indicate preferred audit conclusions to subordinates can affect the subordinate's judgments (Wilks, 2002; Peecher *et al.*, 2010).

The complexity of a task can be defined in terms of the number of problem components, the level of integration of information that is required and its dynamic complexity (Wood, 1986; Tan and Kao, 1999). A lower-complexity tax planning task has a limited number of cues and problem components, requires the application of the basic corporate reorganization statutes and there is limited need for insightful judgments. A higher-complexity tax planning task has a greater number of cues and problem components, integration of client fact information and the legislation adds more complexity and there is the potential for insightful judgments as there could be several alternate solutions and more complex ways of

integrating the legislation and the client fact information which extend beyond the correct application of the basic corporate reorganization statutes.

Accountability is defined as the pressure to justify one's judgment to others (Tetlock, 1983; Lerner and Tetlock, 1999) and the need to support one's judgment and decisions is an important feature in public accounting firms (Gibbins and Newton, 1994; Cloyd, 1997; Magro, 1999). The hierarchical nature of a public accounting firm indicates that the subordinate's task would generally be reviewed by a supervisor. Prior research has found that accountability can have positive effects, if they induce effort or negative effects if they lead to strategic attitude shifts (Gibbins and Newton, 1994; Cloyd, 1997; Lerner and Tetlock, 1999). For example, accountability can have a negative effect if it leads to good justification for performance instead of good performance (Gibbins and Newton, 1994). Prior research has also found that task complexity interacts with advice (Pinto, 2015) and task complexity interacts with accountability in the accountability-performance relationship (Tan and Kao, 1999).

In a tax practice, a supervisor monitors and advises a subordinate tax professional with the overall objectives of improving effectiveness, increasing efficiency and further developing a subordinate's tax planning expertise (Pinto, 2015). To meet these objectives, supervisory advice is informative and technical in nature, rather than prescriptive. The advice provides useful information suitable for the type of tax planning task, including references to relevant legislation and examples of similar plans completed for other clients. Senior tax professionals indicate that supervisory advice is generally provided to a subordinate prior to commencing a tax planning task (pre-advice) but as busy schedules can disrupt this process, supervisory advice is sometimes given at a later date, after the subordinate has worked on the task (post-advice). Discussions with senior tax professionals suggest that there is an opportunity to provide advice later as a subordinate who prepares a tax plan would take the time to review it prior to the submission for a supervisor's formal review (post-advice).

Development of hypotheses: Prior research (Pinto, 2015) examined the effects of supervisory advice on tax planning judgments by comparing the effects of advice on the judgment of tax professionals who received advice as opposed to those who did not receive advice while this study focuses on the timing of when supervisory advice is provided to a subordinate, by comparing the effects of advice given before the subordinate tax professional commences a tax planning task (pre-advice) as opposed to after the subordinate has worked on the task

(post-advice). In the public accounting environment, advice is generally provided for all tax planning tasks, including lower-complexity and higher-complexity tasks (Wood, 1986; Tan and Kao, 1999). In this study, the advice provided in the four experimental conditions is essentially the same so that the effects of task complexity and the timing of advice are not confounded with differences in the advice itself. The task is an estate tax planning task and the advice provided is non-prescriptive and includes information useful for all such tasks.

Pre vs. post-advice, lower-complexity task: The supervisory advice provides useful information about estate tax planning tasks, to meet the firm's objectives of training and enhancing the subordinate tax professional's expertise. However, the participants who have the relevant education, tax training and experience, should be capable of correctly applying the legislation to develop a technically adequate plan for a lower-complexity task without advice.

Sniezek and Buckley (1995) identified a cued effect, resulting from a decision-maker's attention being drawn to elements included in the advice, dependent on the timing of when advice is provided. Advice given before the tax professional thinks through the problem could interfere with or constrain the tax professional's normal processing strategies and drawing on their knowledge (Hoffman *et al.*, 2003; Bobek *et al.*, 2010). Hoffman *et al.* (2003) found that experienced auditors were constrained in the processing of information while performing an ill-structured task when audit evidence was provided to them in a pre-established sequence. The advice could distort the subordinate's judgment (Russo *et al.*, 1996, 2000) or interfere with a tax professional's thinking through the problem and matching the legislation with the client fact information as they would have done adequately on their own. For example, the advice could disrupt the subordinate's judgment in the choice and/or application of the corporate reorganization statutes which could result in errors and a technically inadequate tax plan. Furthermore, the advice could cause the tax professional to over-think the problem or consider several potential solutions and yet fail to recommend a solution which would result in a technically inadequate tax plan (Wilson and Schooler, 1991; Russo *et al.*, 2000; Wilks, 2002).

On the other hand when the advice comes after the tax professional has thought through the problem (s) and developed a tentative solution, it is less likely that the information contained in the advice will disrupt the individual's processing of information (Wilks, 2002; Hoffman *et al.*, 2003; Peecher *et al.*, 2010) as the supervisor's intervention occurs after the subordinate has

had an opportunity to independently process the client's request and the client fact information. This suggests that pre-advice could be detrimental to subordinate tax professional's performance and result in technically inadequate tax plans while post-advice should not have these detrimental effects.

As the advice is coming from a supervisor it carries an implication that it should be followed (Gibbins and Newton, 1994; Sniezek and Buckley, 1995; Lerner and Tetlock, 1999) which could lead to the subordinate being distracted by the information in the supervisor's advice or an unnecessary diversion toward the details in the advice that could lead to inefficiencies. Examples of such inefficient diversions are examining the supervisor's references too closely to determine if they apply (Wilson and Schooler, 1991; Sniezek and Buckley, 1995; Proell and Nelson, 2007). Such diversions could confuse the subordinate tax professional or result in unnecessary detail in the tax plan which could lead to inefficiencies if it increases the time and effort taken in the preparation and review of the file.

On the other hand, if post-advice is provided the confusion that occurs with pre-advice should be reduced as the tax professional has had the opportunity to process the information, make independent judgments and develop a tentative solution before receiving the advice (Sniezek and Buckley, 1995; Hatfield, 2001; Wilks, 2002). Thus, although the advice is coming from a superior, post-advice is less likely to result in unnecessary introspection (Wilson and Schooler, 1991; Sniezek and Buckley, 1995) as it is received after the subordinate has independently thought through the client fact information and considered the relevant tax issues as well as the applicable legislation. Therefore, post-advice should result in less confusion than pre-advice.

H₁ (pre vs. post-advice, lower-complexity): For the lower complexity task:

- There are more technically adequate plans with post-advice compared to pre-advice
- There is less confusion shown in the plans with post-advice compared to pre-advice

Pre vs. post-advice, higher-complexity task: For a higher-complexity task, a supervisor's advice could guide the tax professional to the more extensive applications of the legislation that could be required and the references to examples in other client files could provide useful guidance for this more complex tax planning task. The guidance provided in the advice could reduce technical errors and technically adequate tax plans are more likely. However, the timing of the advice is important.

Pre-advice could have negative effects if it could disrupt the tax professional's usual processing of information (Sniezek and Buckley, 1995; Wilks, 2002; Hoffman *et al.*, 2003) while post-advice could provide useful guidance but would be less likely to interfere with a tax professional's usual processing of information as the guidance contained in the advice is received after the tax professional has independently thought through the problem (s) and independently considered alternate solutions. Therefore when compared to pre-advice, post-advice should result in an improvement in the technical adequacy of the tax plans for this higher-complexity task.

However, similar to the lower-complexity task as the advice is from a superior the implication to follow the advice could result in confusion, especially as the advice is received before the subordinate has an opportunity to think through the problem (s). In the attempt to follow the superior's advice, the tax professional may examine the information too closely leading to unnecessary introspection or unnecessary diversions (Wilson and Schooler, 1991; Sniezek and Buckley, 1995) and although the advice provides useful information that could help prevent technical errors, the advice could cause some confusion. Pre-advice is predicted to cause confusion as it is an intervention in the tax professional's thinking process but as predicted for the lower-complexity task, the confusion should be reduced when the advice comes after the tax professional has had an opportunity to independently think through the problem, the tax issues and the applicable legislation in developing a tentative solution. Therefore, post-advice should result in less confusion than pre-advice for this higher-complexity task.

H₂ (pre vs. post-advice, higher-complexity): For the higher-complexity task:

- There are more technically adequate plans with post-advice compared to pre-advice
- There is less confusion with post-advice compared to pre-advice

A higher-complexity task implies that insightful judgment is required as there may be several possible solutions to consider or integration with various statutes in the legislation may be necessary or other complex tax considerations are required as there are more complex ways of solving the problem. Insightful judgments go beyond the technically correct application of the corporate reorganization statutes (i.e., beyond technical adequacy).

Pre-advice that is given before the subordinate has an opportunity to think through the problem and develop a tentative solution could hinder such insightful judgments. The subordinate could evaluate the client fact information in a manner that is consistent with the supervisor's advice (Lerner and Tetlock, 1999; Wilks, 2002) or could be cued to information in the pre-advice that limits thinking about alternate solutions (Sniezek and Buckley, 1995) or could lean toward the supervisor's preferences (Lerner and Tetlock, 1999; Wilks, 2002). The advice intervention could lead the tax professional to overlook other important and relevant information which could limit the potential for insightful judgments as it draws attention to information in the advice (external knowledge) before the subordinate has the opportunity to access internal knowledge. For example, pre-advice could interfere with the tax professional's usual processing of information (Hoffman *et al.*, 2003) in the matching of the client fact information with the applicable legislation (Wilks, 2002; Peecher *et al.*, 2010) or in the processing of important criteria contained in the client fact information (Sniezek and Buckley, 1995).

Post-advice that is given after the subordinate thinks through the problem and considers the tax issues in the client's situation is less likely to hinder insightful judgments as the subordinate has had the opportunity for tax insights before receiving the advice, for example time to consider potential issues in the client fact information and/or the legislation as well as alternate solutions (Sniezek and Buckley, 1995; Wilks, 2002; Peecher *et al.*, 2010). As the tax professional has had an opportunity to develop a solution with insightful judgments before receiving the advice, these independently developed insights (Sniezek and Buckley, 1995) are less likely to be constrained (Sniezek and Buckley, 1995; Wilks, 2002; Hoffman *et al.*, 2003; Peecher *et al.*, 2010). This should increase the likelihood of the tax professional preparing an excellent tax plan which extends beyond technical adequacy. Yet, post-advice could provide useful guidance that could help to reduce technical errors, for example, the advice could ensure that the tax professional considers important legislation, current tax issues and potential problems related to the task. Thus, the post-advice could provide useful guidance but unlike pre-advice, should not limit insightful judgments as the tax professional has had an opportunity for tax insights before receiving the supervisor's advice.

H₃ (post-advice, higher complexity): For the higher complexity task:

- There are more excellent plans with post-advice compared to pre-advice

MATERIALS AND METHODS

An experiment was conducted with 58 tax professionals using a between-subjects research design with advice (pre-advice vs. post-advice) and task complexity (lower vs. higher task complexity). The participants were randomly assigned to the four conditions. In the experiment, advice is provided through a written document containing a supervisor’s advice. To ensure external and internal validity, the content of the advice was verified during the development and pre-testing to ensure that it is suitable for both the lower and higher-complexity tasks and both pre-advice and post-advice. The advice included references to relevant legislation, important non-tax considerations and references to examples of estate tax plans in other client files. Two tax planning tasks of lower vs. higher-complexity were developed and reviewed with senior tax professionals during the development of the tasks and then pre-tested with tax professionals of a similar capability to the participants in this study. In the development of the two tasks, the complexity was determined based on the component, integrative and dynamic complexities of estate tax planning tasks (Wood, 1986; Tan and Kao, 1999). The lower-complexity task had fewer problem components, fewer cues in the client fact information, fewer applicable statutes, required less integration of applicable statutes and client fact information than for the higher-complexity task and there was less uncertainty in the client fact situation and/or uncertainty in the application of the legislation.

The experimental setting included contextual features important in public accounting (Gibbins and Newton, 1994; Cloyd, 1997; Spilker and Prawitt, 1997; Magro, 1999), the superior-subordinate hierarchy (participants were asked to create a name for their supervisor and the memo, submitted with the tax plan was addressed to this supervisor) and a time budget of 55 min. A post-experiment questionnaire was used to obtain demographic data for the participants and to check the experimental manipulations. Each firm assigned a proctor to administer the experiment, generally one of the administrative staff.

The participants were tax professionals from regional and national firms across Canada, with the appropriate education (professional accounting designation), tax training (completed Part I of the In-depth tax program, offered by the Canadian Institute of Chartered Accountants (CICA)) and tax experience (minimum 2 years, including tax planning experience). The demographic data for the 58 participants (Table 1) provides evidence of the suitability of the participants for this study.

Table 1: Demographic data

Education, training and experience	Lower complexity (29 participants)	Higher complexity (29 participants)
Education		
CA, CGA, CMA	23	25
No designation indicated (note 1)	6	4
Total	29	42
Training		
In-depth part 2 or equivalent	28	28
In-depth part 1 or less	1	1
Total	29	29
Experience (years)		
Tax experience	5.82	5.64
Tax planning experience	2.88	2.56

These participants did not answer this question, but their responses to the other questions (e.g., CICA In-depth program) indicate they have a designation

The evaluations of the tax plans were conducted independently by two senior tax professionals from two national firms. These two evaluators did not have a role in developing the tasks and were from different offices than the senior tax professionals who assisted in the development of the tasks. The researcher outlined the evaluation procedures to the two evaluators, providing them with evaluation forms and the definitions of the terms inadequate, adequate and excellent tax plans. The two evaluators were blind as to participant’s identification and each evaluator independently completed the evaluations. Each evaluator received an honorarium for doing the evaluations.

The evaluators assessed the overall adequacy of the tax plans and provided open-ended comments to support their evaluations. The evaluation of the overall adequacy of the plans was conducted in terms of three distinct categories: inadequate, adequate and excellent (more than adequate). The evaluations included assessments of: technical errors in the application of the legislation, recognition or omission of relevant cues in the client fact information and tax insights. Therefore, an adequate tax plan indicates a solution (tax plan) that is technically correct in the application of relevant legislation. On the other hand, an inadequate tax plan is defined as: no solution (tax plan) has been prepared, e.g., the participant has only listed various tax issues or there are technical errors in the application of the legislation or important information or cues are not recognized. An excellent tax plan includes tax insights for which there is more scope in the more complex task which go beyond the preparation of a technically adequate tax plan, e.g., insightful judgments in the application and integration of the legislation, the matching of the legislation to the client fact situation and the recognition of uncertain or future events. The evaluator’s open-ended comments were reviewed by the researcher for indications of confusion in the tax plans.

RESULTS AND DISCUSSION

Demographic information: Table 1 provides summary statistics for the 58 tax professionals who participated in the experiment. The participants had the relevant tax training (completed at least Part 1 of the CICA in-depth tax course or equivalent) and averaged 5.7 year of tax experience and 2.7 year of tax planning experience, including experience with corporate reorganizations. The participants considered the task to be realistic (mean = 5.85 out of 7) and understandable (mean = 5.53 out of 7).

Participants completed a questionnaire after they completed the tax plans, with the responses indicated on a scale of 1-7. The participant responses indicate that supervisory advice is usually provided before tax professionals commence a tax planning task (mean 5.08 out of 7) and the participants also indicated that they generally follow any advice provided by the supervisor (mean = 5.73 out of 7). Accountability and time pressure were not manipulated in the experiment but the post-experiment questionnaire included questions regarding these factors. Participants were told that their tax plans would be reviewed by an experienced tax professional. On average, participants felt that the forthcoming review influenced the preparation of the tax plan (mean = 3.68 out of 7). Participants indicated they felt time pressure to complete the tax planning task in the experiment (mean = 4.86 out of 7) and in normal practice, they felt a similar degree of time pressure when completing a tax planning task within a time budget (mean = 4.80 out of 7). As the tax professionals performed the task under the same conditions (in a meeting room) and as there was a random allocation of tasks to the tax professionals, the same time budget (1 h) was provided for both the lower and higher-complexity tasks. The average time taken for completion of the task was 50min with the average for the lower-complexity task being 48 min and 52 min for the higher complexity task. These responses indicate that the experiment was realistic as to its accountability setting and the time pressure in completing the task (Cloyd, 1997; Spilker and Prawitt, 1997). The post-experimental questionnaire included questions to check the experimental manipulations. Participants were asked to assess the difficulty of the lower-complexity and higher-complexity tasks and the results indicate a statistically significant difference in complexity. The experimental materials were organized in a sequence of folders and hence the timing of when the advice was provided to participants was physically differentiated. In addition, participants were asked questions to confirm the advice conditions and their responses provided overall confirmation of the experimental conditions.

Effects of pre vs. post-advice for the lower-complexity task: H_1 predicts that pre-advice will have a detrimental effect on the technical adequacy of the tax plans prepared for a lower-complexity task and will cause more confusion, compared to the tax plans prepared with post-advice. To test H_1 , the assessment of the tax plans for the pre-advice and post-advice conditions are compared to examine the relative effects of the advice on the tax professional's ability to determine a solution and prepare a tax plan the technical adequacy of the tax plan prepared and evidence of confusion in the adequate tax plans.

H_1 predicts that tax professionals who get post-advice from a supervisor after they have prepared a tax plan for the lower-complexity task are more likely to prepare an adequate tax plan than those receiving pre-advice. The results of χ^2 -tests that compared the frequency of adequate tax plans prepared by the pre-advice and post-advice groups indicate that post-advice resulted in more adequate tax plans than pre-advice ($\chi^2 = 6.807$, $p = 0.009$) which indicates that post-advice improved the technical adequacy of the tax plan compared to pre-advice and provides support for H_1 (Table 2).

Table 2 also shows that compared to pre-advice, post-advice resulted in less confusion in the adequate tax plans ($\chi^2 = 10.096$, $p = 0.001$) which indicates that the post-advice did not have the distortionary effects of pre-advice which supports H_1 .

Effects of pre vs. post-advice for the higher-complexity task: H_2 predicts that the technical adequacy of the tax plans prepared by tax professionals getting post-advice for a higher-complexity task will be better than the tax plans prepared with pre-advice. There were 16 participants in this post-advice group. More participants developed a tax plan with post-advice (11 of 16) compared to pre-advice (8 of 13) which suggests that post-advice was more helpful to the tax professionals in the determination of a solution (i.e., a tax plan) ($\chi^2 = 2.660$, $p = 0.103$) (Table 3). Post-advice resulted in more technically adequate tax plans and although the results are not significant, they are in the right direction (Table 3).

H_2 predicts there will be a decrease in confusion with post-advice compared to pre-advice. The results indicate that post-advice did reduce confusion ($\chi^2 = 6.112$, $p = 0.013$) (Table 3). Post-advice resulted in significantly less confusion than pre-advice. This supports H_2 .

H_3 predicts that tax professionals getting post-advice for a higher-complexity task will be more likely to prepare an excellent tax plan than the tax professionals who receive pre-advice. A further examination of the adequate tax plans indicates that pre-advice resulted in only one

Table 2: Effects of post-advice for lower-complexity tasks (H₁) pre-advice

Variables	Pre-advice	Post-advice	χ^2 -test	Fisher's exact test
Tax plan (solution) developed	13	15		
No plan developed	1	0		
Total	14	15		
Tax plan is technically adequate	7	14	6.807	
No plan or technically inadequate plan	7	1	p = 0.09	p = 0.014
Total	14	15		
Adequate plan shows confusion	6	2	10.096	
Adequate plan shows no confusion	1	12	p = 0.001	p = 0.003
Total	7	14		

Table 3: Effects of post-advice for higher-complexity tasks (H₂ and H₃)

Variables	Pre-advice	Post-advice	χ^2 -test	Fisher's exact test
Tax plan (solution) developed	8	11	2.660	
No plan developed	5	5	p = 0.103	p = 0.144
Total	13	16	NS	NS
Tax plan is technically adequate	6	10	0.775	
No plan or technically inadequate plan	7	6	p = 0.467	p = 0.467
Total (Note 1)	13	16	NS	NS
Adequate plan shows confusion	5	2	6.112	
Adequate plans shows no confusion	1	8	p = 0.013	p = 0.035
Total	6	10		
Tax plan is more than adequate (Excellent)	1	7	4.27	
Tax Plan is not more than adequate	5	3	p = 0.039	p = 0.119
Total	6	10		NS

The results are not significant but in the right direction

participant preparing an excellent tax plan (1 of 6 participants) while with post-advice significantly more participants (7 of 10 participants) prepared an excellent tax plan ($\chi^2 = 4.27$, $p = 0.039$). These results support H₃.

Impact of experience on the results: The education and training are similar across the 58 participants in this study. The minimum requirements for tax experience and tax planning experience were indicated in the invitation letter to participants and Table 1 indicates that these requirements were met. However, as the experience varies across the participants additional tests are conducted to assess the impact of experience on the results.

As the measure for the dependent variable is the preparation of an adequate tax plan which is a dichotomous variable, correlation measures are not feasible and logistic regressions are used to assess the impact of experience on the results reported in this study (Table 2 and 3).

The results indicate that general tax experience does not impact the overall results (the coefficient on the general tax experience variable has a Wald statistic of 0.574 (df = 1) with an odds ratio is 0.919 and it is not significant. However, tax planning experience does impact the results reported. The coefficient on the tax planning experience variable has a Wald statistic of 5.742 (df = 1) which is significant at the 0.02 level while the odds ratio is 1.04. Therefore, these results suggest that each additional unit (month of tax planning experience) increases the odds that a tax professional will prepare an adequate tax plan by 4%.

CONCLUSION

Tax planning represents a significant commitment by the client and the firm (Magro 1999; Klassen and Sansing, 2006). Incorrect or inappropriate planning decisions are costly to the firm, often with significant negative consequences to the firm's practice risk and reputation (Kadous and Magro, 2001; Kadous *et al.*, 2008). This study compared the effects of pre-vs. post-advice from a supervisor on the performance of subordinate tax professionals performing tax planning tasks of different task complexity.

Supervisory advice in this study is technical, following the practice in the tax practices of public accounting firms where supervisory advice tends to be technical, for example in the inclusion of references to the income tax legislation. It is provided to enhance subordinate's expertise, to meet perceived objectives of effectiveness and efficiency in tax planning tasks and to meet the longer term training objective (Pinto, 2015). The results demonstrate that the common practice of giving the advice before a tax professional commences work on a tax planning task has detrimental effects on performance. The advice reduced the technical adequacy of tax plans for the lower-complexity task and restricted insightful judgments for the higher-complexity task. Furthermore, pre-advice resulted in confusion for both the lower and higher-complexity tasks and although the confusion would not affect the technical adequacy of the tax plans it could result in inefficiency at both the preparation and review stages of the tax plan as it implies

the wasting of time, in the public accounting environment where chargeable time is of great importance (Glover, 1997; Spilker and Prawitt, 1997).

Three important conclusions can be drawn from the results. First, the giving of advice by a supervisor should be conditional on the complexity of the tax planning task, as the results suggest that advice is beneficial for the higher-complexity task but detrimental for the lower-complexity task. Second, post-advice is more beneficial than pre-advice for the higher-complexity tax planning task as pre-advice appears to hinder the insightful judgments potential for this task. Third, for both tasks, pre-advice could result in more confusion as the tax professional attempts to insert elements from the supervisor's advice into the tax plan. This suggests that post-advice is more suitable for both tasks and although a supervisor's advice may not be necessary for the successful completion of the lower-complexity tax planning task, it could be useful toward a firm's long-term objectives of training and enhancing the tax professional's expertise and in this case, post-advice would be more suitable than pre-advice.

This research study was conducted in the tax practices of public accounting firms. The task was tax planning and the participants in the experiment were tax professionals, therefore caution should be exercised in generalizing the results to other contexts. The advice provided in tax practices tends to be technical in nature and future research could investigate if other types of supervisory advice (e.g., procedural rather than technical advice) have the same effect. Future research could also investigate if supervisory advice has the same effects on tasks other than tax planning tasks.

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