CHAPTER FIVE

RESULTS AND DISCUSSION

5.1 RESULTS

Of the total questionnaires distributed (335) to secondary accounting teachers in Malaysia, only 155 had been returned within the stipulated period of two months ending mid August 2010. The results of the tested assumptions of regression analysis pertaining to the data collected were as follows:

Assumption 1: Ratio of cases to independent variables:

Pallant (2005) has cited the research of Tabachnick and Fidell (2001) that provides a guideline or formula of a sample size requirement for multiple regression taking into account the number of independent variables:

N > 50 + 8m (where m=independent variables)

In this study, the number of independent variables applied was 3. Applying to the given guideline, N therefore must be more than 74 {N > 50 + 8(3)}. The assumption 1 was not violated as the sample collected for this study was 155.

Assumption 2 : No Multicollinearity for independent variables

The presence of multicollinearity was verified by performing "collinearity diagnostics" via Tolerance and Variance Inflation Factor (VIF) value. In other words, the presence of multicollinearity will be indicated by tolerance value level

which is less than 0.10 or Variance Inflation Factor value which is above 10. Based on the coefficient table, the tolerance value for each independent variable was 0.499 and 0.396 respectively, which is above 0.10. Therefore, the assumption of multicollinearity has not been violated. The results were supported by Variance Inflation Factor values for the independent variables which recorded at 2.003 and 2.523 respectively, which was below the cut-off of 10.

Assumption 3: No multivariate outliers

Outliers of the data were detected by inspecting “boxplots” (Refer to Appendix B). As shown in boxplot 1, 2, 3 and 4 representing variables Attitudes, Behavioral Intention, Perceived Usefulness and Perceived Ease of Use, only two outliers were detected in all boxplots except one in Behavioral Intention boxplot. All the outliers however were not considered extremes (indicated with an asterisk *). The comparison of the mean and 5% trimmed mean values for each variable is required in order to know how much influence the outlying cases would likely to be and the data could be retained if the means do not differ very much (Pallant, 2005). Based on the Descriptive statistic information, the mean and 5% trimmed mean values for all variables were not different very much. Behavioral Intention (Mean = 14.97 ; 5% Trimmed Mean = 15. 07), Attitudes (Mean = 22.08 ; 5% Trimmed Mean = 22.81), Perceived Usefulness (Mean = 21.21 ; 5% Trimmed Mean = 21.53), Perceived Ease of Use (Mean = 21.21; 5% Trimmed Mean=21.51). Thus, the assumption of multivariate outliers is not violated.

Assumption 4: Normal Distribution

"A simpler guideline" to examine the normal distribution of all variables as suggested by Morgan et al. (2004, pg. 57) is to look at the Skewness Statistic if it is between – 1 and 1. If it is less than or minus one, then the variable is at least approximately normal. The skewness statistics of all variables were listed in Table 13 (Refer to Appendix A). The skewness statistic of Behavioral Intention (-0.323), Attitudes (-0.711), Perceived Usefulness (-0.797) and Perceived Ease of Use (-0.895) indicated that the values were in the range of between -1 and 1 which assumed that all variable were at least approximately normal.

5.2 RESULTS RELATED TO RESEARCH QUESTION ONE (RQ 1)

RQ 1:

How well do accounting teachers' attitudes and perceived usefulness predict their intentions to use the system in the learning process?

For the purpose of answering question number one, respondents were asked to respond to a seven likert-scale items measuring the level of their attitudes towards using computerised accounting system as well as their perceived usefulness of computerised accounting system in predicting teachers' behavioural intention. Simultaneous multiple regression was conducted to investigate how well both attitudes and perceived usefulness can predict

teachers' behavioural intention in using the system. In other words, stating in the context of Equation 1:

Attitudes (A) + Perceived Usefulness (PU) = Behavioural Intention (BI)

Basically, the results of correlations among the variables in Table 1 indicated that there was a positive and significant relationship between independent variables, attitudes and perceived usefulness with dependent variable, behavioural intention.

TABLE 1 **Correlations**

		Behavioral Intention	Perceived Usefulness	Attitude
Pearson Correlation	Behavioral Intention	1.000	.680	.750
	Perceived Usefulness	.680	1.000	.777
	Attitude	.750	.777	1.000
Sig. (1-tailed)	Behavioral Intention	.	.000	.000
	Perceived Usefulness	.000	.	.000
	Attitude	.000	.000	.
N	Behavioral Intention	155	155	155
	Perceived Usefulness	155	155	155
	Attitude	155	155	155

In the following Table 2, the model summary showed multiple correlation coefficient (R), using all the predictors simultaneously was 0.77, and the "R square" to be 0.586, indicating that about 58.6% of the variance in teachers' behaviour intention can be predicted from a combination of attitudes and perceived usefulness.

TABLE 2 **Model Summary[b]**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.766[a]	.586	.581	2.15879

a. Predictors: (Constant), Attitude towards using CAS, Perceived Usefulness of CAS

b. Dependent Variable: Behavioral Intention to use CAS

In the meanwhile, the Coefficients in Table 3 would be used to assess the contribution of each independent variable to the prediction of teachers' behavioural intention to use the system. For example, the standardized coefficient of Beta value for Attitudes contributed about 0.56 whereas the value recorded by perceived usefulness contributed about 0.24 in predicting the intention to use the system. Further, the "sig" value for both predictors as could be observed in the last column of coefficient table indicated that Attitudes and perceived usefulness in this study were both individually found to be significantly contributing to the equation for predicting teachers' behaviour intention.

TABLE 3 **Coefficients[a]**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.667	.857		3.113	.002
	Attitude	.404	.060	.560	6.764	.000
	Perceived Usefulness	.160	.054	.244	2.948	.004

a. Dependent Variable: Behavioral Intention to use CAS

The Table 4 of ANOVA result showed that F= 107.77 and was statistically significant, which proved that the combination of independent variables, attitude and perceived usefulness significantly predicted the dependent variable, behavioural intention.

TABLE 4 **ANOVA[b]**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1004.464	2	502.232	107.767	.000[a]
	Residual	708.375	152	4.660		
	Total	1712.839	154			

a. Predictors: (Constant), Perceived Usefulness of CAS, Attitude towards using CAS

b. Dependent Variable: Behavioral Intention to use CAS

5.3 RESULTS RELATED TO RESEARCH QUESTION TWO (RQ 2)

RQ 2:

What will be the impact of Perceived Usefulness (U) and Perceived Ease of Use (EOU) on accounting teachers' attitudes towards using computerised accounting system?

In answering question number two, respondents were asked to respond to a seven likert-scale items measuring their perceptions of perceived usefulness and perceived ease of use via computerised accounting system in order to know the impact of these two determinants on teachers' attitudes.

In this context, the following equation 2 was formulated:

Perceived Usefulness (PU) + Perceived Ease of Use (PEOU) = Attitude (A)

In Table 5 presented below, the correlations showed that the variables of perceived usefulness and perceived ease of use were positively and significantly correlated to Attitude. The strongest positive correlation was found between perceived usefulness and attitudes, r (155) = 0.78 at p =0.000.

TABLE 5
Correlations

		Attitude	Perceived Usefulness	Perceived Ease of Use
Pearson Correlation	Attitude	1.000	.777	.726
	Perceived Usefulness	.777	1.000	.708
	Perceived Ease of Use	.726	.708	1.000
Sig. (1-tailed)	Attitude	.	.000	.000
	Perceived Usefulness	.000	.	.000
	Perceived Ease of Use	.000	.000	.
N	Attitude	155	155	155
	Perceived Usefulness	155	155	155
	Perceived Ease of Use	155	155	155

The results in the following coefficients Table 6 showed both perceived usefulness and perceived ease of use significantly influenced teachers' attitudes in using the system. Perceived usefulness and perceived ease of use in this study had the path coefficient of Beta value of 0.53 and 0.35 respectively.

TABLE 6 **Coefficients[a]**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.579	1.043		4.392	.000
	Perceived Usefulness	.479	.060	.527	7.940	.000
	Perceived Ease of Use	.346	.065	.354	5.329	.000

a. Dependent Variable: Attitude towards using CAS

Based on the model summary in the following Table 7, the result showed that the model explained a significant percentage of variance (R Square=66.6%) in teachers' attitudes.

TABLE 7 **Model Summary[b]**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.816[a]	.666	.662	2.69388

a. Predictors: (Constant), Perceived Ease of Use via CAS, Perceived Usefulness of CAS

b. Dependent Variable: Attitude towards using CAS

5.4 RESULTS RELATED TO RESEARCH QUESTION THREE (RQ 3)

RQ 3:

To what extent the impact of the system for its Perceived Ease of Use has on Perceived Usefulness?

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The research question number three evaluated respondents' perceptions whether or not the determinant of perceived ease of use via computerised accounting system has an impact on perceived usefulness. Based on the Technology Acceptance Model, the following equation 3 was formulated:

Perceived Ease of Use (PEOU) = Perceived Usefulness (PU)

In the correlation matrix in Table 8, it was found that perceived ease of use was significantly correlated to perceived usefulness.

TABLE 8 Correlations

		Perceived Usefulness	Perceived Ease of Use
Pearson Correlation	Perceived Usefulness	1.000	.708
	Perceived Ease of Use	.708	1.000
Sig. (1-tailed)	Perceived Usefulness	.	.000
	Perceived Ease of Use	.000	.
N	Perceived Usefulness	155	155
	Perceived Ease of Use	155	155

Meanwhile the path Coefficients in Table 9 showed that there was a significant effect on perceived usefulness by perceived ease of use (Beta value of 0.71).

TABLE 9 **Coefficients[a]**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.042	1.336		3.773	.000
	Perceived Ease of Use via CAS	.762	.061	.708	12.391	.000

a. Dependent Variable: Perceived Usefulness of CAS

5.5 DISCUSSION

Using a Technology Acceptance Model, this study attempted to explore the acceptance level of secondary accounting teachers that impact their intention to use computerised accounting system. Results obtained from the model suggested that all hypothesized links were significant.

5.51 Explaining Behavioural Intention

Looking back at the Equation 1 described earlier in the chapter two under Studies on Technology Acceptance Model (TAM), the model in this study explained a significant proportion of the variance in Behavioural Intention. The

findings of this study for instance indicated that about 58.6% of the variance in teachers' behaviour intention can be predicted from a combination of attitudes and perceived usefulness. Both predictors: attitudes and perceived usefulness were found to have significant relationship with behavioural intention. The results were consistent with the findings in the previous study by Davis et al. (1989). According to Cohen (1988) guidelines, 58.6% was considered a large effect size.

Overall, based on the acceptance level of the secondary accounting teachers' behavioural intention in using computerised accounting system which has the range score value of above 15, about 52% agreed to use the system in future as illustrated in Table 10 (Refer to appendix A). In examining the individual determinants of behavioural intention within TAM, the results showed that the variables of attitudes and perceived usefulness were found to have significant and positive relationships with behavioural intention. The results were in line with the results reported by Albirini (2004) which had examined the relationship between users' attitudes towards computers and the level of computer use in the classrooms.

Between Attitudes and Perceived Usefulness, the results however indicated that Attitudes had a stronger significant influence (Beta value = 0.56) in predicting teachers' behavioural intention to use the system than perceived usefulness (Beta value = 0.24). This finding differs from the results reported in several prior technology acceptance studies in which perceived usefulness was

found to have greater effect on the behavioural intention than Attitude (Davis et al, 1989; Chau and Hu, 2002). The difference could be due to the nature of the target behaviour. When teachers for example have expected that the computerised accounting system will be implemented soon and when some of these teachers have stated their readiness in their minds to accept a new way of teaching or delivering to their students, they will definitely react in a favourable or positive manner, rather than thinking about the usefulness of the system in the first place in the learning process. In view of this, previous studies also reported that teachers' attitudes can determine the extent to which technologies are used in the teaching and learning process (Al-Zaidiyeen et al., 2010). In addition, as Ridzuan et al. (2001) mentioned in a study, "attitude towards technology itself was considered as one major consideration in introducing new technologies into the teaching and learning process".

As illustrated in Table 11, about 50.3% of secondary accounting teachers (78 teachers) had positive attitudes about the idea to implement computerised accounting system in schools (Refer to Appendix A). This was indicated by the total scale values ranging from 24 to 28 assuming the teachers were quite agree and strongly agree for each item attitude (quite agree = 6 points each item X 4 items; and strongly agree = 7points each item X 4 items). Meanwhile, looking at the frequency of perceived usefulness in Table 12, only 42.6 % of the respondents (66 teachers) perceived that the system was useful to them in accounting lessons, indicated by the range values of total scores from 24 to 28

(Refer to Appendix A). Similar like attitude, this is based on the assumption that 66 teachers on average quite agreed and strongly agreed for each item of perceived usefulness (4 items).

Based on the above findings of this study, the following hypotheses were confirmed to prove that:

H1: Accounting teachers' attitudes toward using computerized accounting system will significantly predict teachers' behavioural intention to accept the system.

H2: The level of usefulness of Computerized Accounting System as perceived by teachers will significantly predict their behavioural intention to accept the system.

5.52 Explaining Attitude

The second research question examined the equation 2 which considered perceived usefulness and perceived ease of use as determinants of attitudes. Based on the results of the study, it was found that a significant percentage of variance in attitude (66.2%) can be predicted from a combination of both perceived usefulness and perceived ease of use. As such, the result was in consistent with the findings from previous studies by Davis et al. (1989) and Chau and Hu (2002).

The findings of the study indicated that perceived usefulness was a significant determinant of accounting teachers' attitudes towards using computerised accounting system. The path coefficient of 0.53 for H3 as indicated in Figure 2 was significant which indicated that the perceived usefulness had a direct impact on teachers' attitudes. The results also revealed the positive and significant correlation between perceived usefulness and attitudes. This further showed that the greater the perceived usefulness of the system, the more likely accounting teachers will develop higher positive attitudes towards their intention to use the system. In examining another determinant of attitudes that was perceived ease of use, it also showed a positive impact on teachers' attitudes even though its path coefficient was only 0.35, less than perceived usefulness. The results were in consistent with the results of Davis et al. (1989) in their studies in which perceived usefulness was found to have stronger effect than perceived ease of use.

In comparing the result between perceived usefulness and perceived ease of use, we could say that secondary accounting teachers placed a great emphasis on the usefulness of the system in helping them teach their students to understand materials better. In this situation, regardless of the "difficulty" of the system, teachers would still be willing to use as long as the system could help them achieve their objectives. As Davis et al.(1989) pointed out "users may be willing to tolerate a difficult interface in order to access the functionality that is

very important, while no amount of ease of use will be able to compensate for a system that does not do a useful task".

Based on the findings of this study, the following hypotheses therefore were confirmed that:

H3: The level of usefulness of Computerized Accounting System as perceived by teachers will positively affect their attitudes toward accepting the system.

H4: The level of ease of use of Computerized Accounting System as perceived by teachers will positively affect their attitudes toward accepting the system.

5.53 Explaining Perceived Usefulness

The third research question was derived from the equation 3 in the Technology Acceptance Model which consisted of the proposition that perceived ease of use positively influences or affects the perceived usefulness of the system. The results indicated that perceived ease of use was a significant determinant of perceived usefulness.

As indicated in Figure 2, the path coefficient for H5 (Perceived Ease of Use to Perceived Usefulness) was significant with a t-value of 12.4 and represented a strong and direct effect (0.71) on perceived usefulness from Perceived ease of use construct. The result could imply that based on teachers'

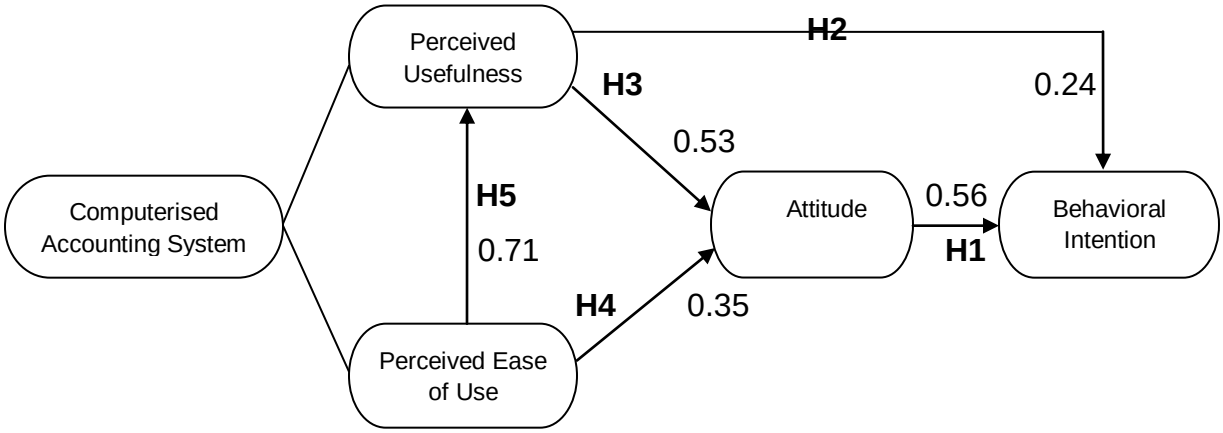
point of views, there was a close and direct relationship between perceived ease of use and perceived usefulness of computerised accounting system itself. In other words, the easier the system is, the more useful the system will be to the teachers since it could improve their job performance by saving time using the same amount of effort as before. Similarly, if they were to find the system to be difficult to handle, it would take more time for them to accomplish their work.

The findings were however partially supported by the previous studies as some other studies found that perceived ease of use was found to be insignificant in relation to perceived usefulness. According to Davis et al. (1989), the relative significance of perceived ease of use of the system depends on the nature of target group in the study. For example, in the case of technology adoption in hospitals, if the system can be useful in diagnosing the patient's health, definitely the doctors will intend to use the system regardless of the complexity of the system. The case would be different in this study because teachers do not merely depend on the computerized accounting system in delivering information to their students. Ease of use of the system could be important to them because they could save their precious time concentrating other work especially nowadays teachers have been "burdened" with other activities outside classrooms.

Based on the findings of this study, it confirmed that the following hypothesis was partially supported:

H5: The level of ease of use of Computerized Accounting System as perceived by teachers will positively affect their perceived usefulness of the system.

Figure 2: Summary of the Model Results (Path Coefficents)



5.6 Summary

As theorized in previous studies, the findings of this study showed that both perceived usefulness and attitude combined together significantly predicted teachers' behavioural intention to use the system. Nevertheless, attitudes and not perceived usefulness was found to be the best predictor of teachers' behavioural intention. Looking at the impact that perceived usefulness and perceived ease of use might have on attitudes, each variable was found to have a significant effect on attitude. However, it was perceived usefulness which had a stronger effect on attitudes than perceived ease of use and the result was in consistent with previous studies. This might give an indication that secondary accounting teachers placed a great emphasis more on the usefulness of the system in helping them teach their students to understand materials better. In determining the relation between perceived ease of use and perceived usefulness, the findings showed that there was a significant and direct effect of perceived ease of use on the perceived usefulness. Overall, based on the findings, the previous studies therefore had supported the five hypotheses in this study.