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The End-user Computing Satisfaction (EUCS) On Computerized Accounting System (CAS): How They Perceived?

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Abstract

The purpose of this study is to measure the level of satisfaction among the end-users of computerized accounting system (CAS) in private companies. The study determines the relationship of five factors (content, accuracy, format, ease of use, timeliness) that influence satisfactory level among the end users toward the CAS. Further, this paper examines critical factors in EUCS (content, accuracy, format, ease of use, timeliness) that contributes most to satisfaction. The research was conducted using a set of questionnaire to 269 private companies' staffs that using computerized accounting system (CAS). This study is analyzed with reliability analysis, correlation analysis and Standardized Regression Weight (using Structural Equation Modelling technique). The empirical results of this study can provide support for the Doll and Torkzadeh model (1988), which related to the factors contributing end-users' satisfaction toward accounting system.

Keywords: **End-User Computing Satisfaction, Computerized Accounting System, User, Perception, Structural Equation Modeling**

INTRODUCTION

The measurement of information system effectiveness has proven to be difficult (Seddon and Kee Yip, 2002). In fact, MIS Quarterly described it as one of the most "haunting problems" of Management Information System (MIS) (Davis 1989). Since it is difficult to directly measure the quality and effectiveness of information system, researchers tend to adopt the indirect measurement of information system. One of the measurements of information system is End User Computing Satisfaction (EUCS).

The relationship between the management of an organisation and the information system are measured by the satisfaction of the users. This phenomenon encourages a more focused measurement to explain the overall satisfaction of the computerized accounting system (CAS). Specific questions about certain information system, i.e. CAS, in relation to the factors affecting the end users computing system seem necessary instead of general questions.

There is wealth of literature in the area of the measurement of satisfaction among end user computing. Further, it has had a long history within the IS field. Focusing in the area of end-user computing, a number of studies have attempted to capture the overall evaluation that end users have regarding the use of an information system; i.e. satisfaction, as well as the most immediate factors that form satisfaction (Doll et al. 1995; Doll and Torkzadeh 1988, 1991; Henry and Stone, 1994; Torkzadeh and Doll 1991). However, it seems clear that previous researchers have not attempted to discover the factors affecting the satisfaction of the end users of the CAS especially in private companies. Yet, it is essential to determine the factors that contribute to EUCS while assessing the overall evaluation of information system. Thus, this study attempts to explore the factors that contribute to the EUCS among the private companies in Labuan F.T.

BACKGROUND OF THE STUDY

Since the beginning of 1980s, many researches had conducted survey in information system field highlighting the tremendous development in end-user computing world. In fact, the growth of end-user computing is one of the significant phenomena since 1980s (David, 1983). Furthermore, it is more complicated during the emergence of the borderless world through the introduction of Internet and other information technological advances and gadgets. For instance, according to research done by Nielsen Media Research-Media Index, the statistic of personal computer at home based on total adult in Peninsular Malaysia for the year 2005 is 13.1 million compared with year 2000 that is 11.2 million. It seems there is an increasing of personal computer at home aligned with the existence of information communication technology in Malaysia.

The tremendous adoption of CAS is actually has been influenced by many other factors. Breen et al. (2003) determined the factors that motivated the use of a CAS as well as the factors that hindered the introduction of a CAS. They reported that only 55% of owner-managers used a CAS whereby the most popular CAS is MYOB (54.9%). Furthermore,

they found that the existence of accountant has influenced early starters to introduce a CAS so that small businesses have better records of their financial activities. Obviously, the introduction of a CAS should not be seen as a threat to the accountant, but rather an opportunity.

Moreover, the study by Breen et al. (2003) was designed to investigate small business usage of a CAS to ascertain if there are obstacles that prevent small business from migrating to such a system for both users of CAS and non-users CAS. The study identified a number of other motivating factors included the computer self-efficacy of the owner-manager, the cost and perceived benefits of the innovation, ability to pay for the innovation, having the time to implement the CAS and possessing the staff capable of using the system. Beside, the CAS users stated that they believed the software had a positive impact on the business. However, the CAS non-users stated two major reasons for not using the CAS because a CAS was not needed and would not add value to the business and owner manager lacked IT skills and knowledge to employ it.

Extensively, Bresseler & Bresseler (2003) identified types of accounting information system software utilized by small businesses and asked entrepreneurs whether they are satisfied with the implementation of their software package. Besides, the study also identified the most important variable regarding the choice of accounting information system software application. They suggested that entrepreneurs overwhelmingly chose software package that they found easier to use and were heavily influenced by consultants and business counselors when selecting software package. In addition, the most popular software package is Quick Books and more than half of the respondents are very satisfied based on ease of use or additional software features.

THE PURPOSE AND SIGNIFICANCE OF THE STUDY

The objectives of the study are as follows:
1. To determine the relationship of five factors (content, accuracy, format, ease of use, and timeliness) that influence satisfactory level among the end users toward the CAS.
2. To examine critical factors in EUCS (content, accuracy, format, ease of use, timeliness) that contributes most to satisfaction.

It seems clear that there is lack of study has been conducted in area of EUCS among private companies, particularly in Labuan F.T. Thus, the study aims to contribute to the existing body of knowledge in the area of information technology. Further, the study provides the constructs to measure and evaluate EUCS among the private companies in Labuan F.T. Theoretically, this study measures and validates the instrument of Doll and Torkzadeh EUCS among private companies. In addition, this instrument is very useful in practice, not only for public sector but also for private sector towards the achievement of the excellent and better performance.

END USER COMPUTING SATISFACTION DEFINITION

Many researchers defined end user computing based on their own objectives and setting of the study. Ives, Olson and Baroudi (1983) defines User Information Satisfaction (UIS) is one such evaluation mechanism as to extent to which users believe the information

system available to them meets their information requirements. Chin and Lee (2000) defined end-user satisfaction with an information system as the overall affective evaluation and end-user has relating with his or her experience in the information system. They stated that the term "experience" could be made more specific to focus into different aspects related to the information system such as computing or training. According to Doll and Torkzadeh (1988), EUCS is the affective attitude towards a specific computer application by someone who interacts with the application directly. End-user satisfaction can be evaluated in terms of both the primary (application) and secondary user roles (inquiry and decision support application).This study deployed Doll and Torkzadeh definition of the end user computing and EUCS. The end user computing in this study is the people who interact and use the CAS such as financial officer, administrative officer, bursar assistant, account clerk and etc. In addition, they are those people who eventually can interpret the report as in needed by the organisation.

Literature Review

The scope of the discussion is related to EUCS; the previous factors that contribute to the EUCS, Doll and Torkzadeh Model (1988); i.e., content, accuracy, format, ease of use, and timeliness. The model will become the fundamental guidelines to examine factors contributing to EUCS in finance department among private companies.

EUCS model is the extension of User Information Satisfaction (UIS) model, which previously had been developed by Ives, Olson and Baroudi in 1983. Chen et al. (2000) had identified the underlying factors of end-user satisfaction with data warehouses and had developed an instrument to measure these factors. The study demonstrated that most of the items in classic end-user satisfaction measure are still valid in the data warehouse environment, and that end-user satisfaction with data warehouses depends heavily on the roles and performance of organisational information centres.

Pather et al. (2003) argued that the advent of e-Commerce has shifted the location of the traditional user of Information Systems out of the physical domain of the organisation or business. E-commerce businesses now have to deal with a new type of user viz. the e-Customer. Thus, they disputed that established instruments that measure user satisfaction of IS in traditional (brick and mortar) businesses are not completely appropriate. Finally, they derived an appropriate model for exploring the measurement of e-customer satisfaction in the South African context.

Markovic & Wood (2004) addressed the issue of user satisfaction with a computer lab in a university. Both formal and informal data gathering techniques were used to provide comprehensive data for this research. Data was gathered from both users and managers in order to provide a complete picture of the current situation. This data led to a research study of user satisfaction among students and support staff. The research revealed that satisfaction with hours and software and hardware performance had the greatest impact on user satisfaction followed closely by quality of support staff.

Bengts (2004) studies usability as a constituent of end- user computing satisfaction. Different measurement instruments and rating scales for user satisfaction have been

created; however, the relationship between satisfaction and usability remains unclear. A web-based system with three different user interface alternatives was implemented and the system was used by information technology students to practice SQL-queries in a university course. 43 students reported their preference and the underlying reasons by answering both structured and open-ended questions in a web-based questionnaire. The results also indicated that availability of desired features, simple interaction and user-control are as constituents of satisfaction more important than simple screen design and error- free usage.

Indeed, Huang et al. (2004) argued that while end-user computing satisfaction has been studied extensively, new aspects such as purchasing convenience, product prices in the system and product delivery have to be included. In their study, they developed an instrument for reliably and accurately measuring business-to-employee success. Test–retest reliability and construct validity were examined. Finally, they concluded that convenience, delivery, interface, accuracy, price and security influence employee assessments of satisfaction. Furthermore, managers can use the instrument developed in their study to assess the success of their business-to-employee systems.

Higher user satisfaction leads to positive attitude toward using the system, and in turn, increases the actual use of the system in voluntary situations (Mihir and Bijan, 2002). As end users increasingly use the system, system objectives is realized and the system is success. Therefore, the EUCS is a critical factor for promoting CAS use and ensuring system success.

According to Delone and McLean (1992), either user satisfaction or EUCS is probably the most widely used single measure of information system success as dependent variable. The reasons for this are at least threefold:

> First, "satisfaction" has a degree of face validity. It is hard to deny the success of a system, which its users say that they like.

> Second, the development of the Bailey and Pearson instruments (as a base instrument) and its derivatives has provided a reliable tool for measuring satisfaction and for making satisfaction among studies.

> The third reason for the appeal of satisfaction as a success measure is that most of the other measures are so poor; they are either conceptually weak or empirically difficult to obtain.

The dependent variable for this study is satisfaction. The items, which represent satisfaction, are combined from certain item in every EUCS dimensions. Doll and Torkzadeh (1988) previously used this method in their initial study of EUCS. In those particular items, the respondents were asked whether they satisfied with overall EUCS factor in general or not. This method was implied so that the respondents would not focus to the certain factor or dimension that is overall EUCS. However, to avoid the high correlation between dimensions of EUCS (independent variable) and satisfaction (dependent variable), the study used different items in questionnaire as overall satisfaction (dependent variable) and precisely not uses the same items in preparing the analysis. Therefore, the high correlation of the expected result is not because of the

same item to measure the independent variable and also the dependent variable, but it is due to reliable and valid instrument, which have been used in this study.

This study was based on this EUCS instrument by Doll and Torkzadeh because it is widely used instrument, and has been validated through several confirmatory analyses and construct validity test. In their first study, they conducted personal interviews with end-users (especially middle and lower level managers) in 44 non-randomly selected firms, and then administered an 18-item instrument employing what appear to be 5-point Likert scales. Doll and Torkzadeh argued that a five-factor model was more interpretable. After the exploratory study was completed in 1988, two confirmatory studies with different samples were conducted respectively in 1994 and 1997, which suggested the instrument was valid (Doll et al. 1994; Doll and Xia 1997). A test-retest of reliability of the instrument was conducted in 1991, indicating the instrument was reliable over time (Torkzadeh and Doll 1991).

The instrument is widely accepted and adopted in other researches. In study by Amoli and Farhoomand (1996), they used structural equation modelling techniques to explore the relationship between EUCS and user performance. In their study, it was found that six-attitudinal dimensions of EUCS account for a significant portion of the variation in user performance. Harrison and Rainer (1996) used EUCS as a general measure of computing satisfaction in a survey with the salaried personnel of a university. Their results also support the reliability of EUCS and the validity of the five-factor construct even when EUCS is not used as an application-specific instrument..

In their counterpart, McHaney et al. (1999) conducted a test–retest reliability study of EUCS instrument by Doll and Torkzadeh. The instrument was distributed to real-world representational decision support system users through a mail survey. The result suggested that the instrument was internally consistent and stable when applied to its users. McHaney et al. (2002) again focused on the psychometric stability of the EUCS instrument by Doll and Torkzadeh when applied to Taiwanese end-users of typical business software applications. Using a survey of 342 users, the research provided evidence that the instrument is valid and reliable measurement in Taiwanese settings. Given this evidence, managers and software developers can confidently apply the instrument in the investigation of competing tools, features, and technologies.

From the other perspective, Xiao & Dasgupta (2002) developed and validated an instrument for measuring user satisfaction in a web-based environment. This research tested the validity and reliability of the EUCS instrument on users of Internet portals and found that with minor revisions the new instrument provides a valid measure of user satisfaction. Seddon and Kee Yip (2002) provided an empirical evaluation of three user satisfaction measures for use with computer based general ledger accounting systems. The three measures tested are Ives, Olson, and Baroudi's User Information Satisfaction measure, Doll and Torkzadeh's EUCS measure, and a composite measure that includes questions specifically related to the features offered by general ledger systems. The results from the analysis of the data suggested that Doll and Torkzadeh's is a more useful measure of satisfaction with general ledger systems as compared to Ives, Olson

and Baroudi's UIS.

Lately, Amdan et al. (2006) measured the level of EUCS among CAS end users in peninsular Malaysia public universities. They evaluated the significant relationship between EUCS factors and the overall EUCS in Malaysian context and examined the differences of perception on overall EUCS among the demographic variables. This study found that EUCS factors more reliable as compared to previous studies and the correlation between satisfaction and EUCS factors are fairly strong. However, the study failed to recognize any significant differences of perception on overall EUCS among the demographic variables.

Conclusively, even though the results are mixed, most of the previous studies shown that this instrument is valid and reliable to measure the satisfaction among the end user computing.

DIMENSIONS OF EUCS

The dimensions of the study consist of content, accuracy, format, ease of use, timeliness, system speed, and system reliability. The prior research and research question development is discussed for every those dimensions.
The research questions are:

RQ1: How strong five factors of EUCS influence satisfactory level among the end users toward the CAS?
RQ2: What are critical factors in EUCS that contribute most to the satisfaction of the end users?

RESEARCH METHODOLOGY

This study relied on survey design as it deemed more appropriate compared with other designs of research to achieve of the study. The population of this study covered the end users of CAS at private companies in Labuan F.T. However, only 300 from 400 list of private companies' being selected due to their active operation. We have distributed three questionnaires for each company and the total population are 900 respondents. Sekaran (2003) has stated the sample should be taken for this population are 269.

Instrumentation

For the purpose of this study, the instruments are adopted from Doll and Torkzadeh (1988) which consist of five construct domains namely content, accuracy, format, ease of use, and timeliness. The table summarises the justifications of the selection of the instrumentations. However, some modifications have been made to enable the instruments are fit to be used in the CAS environment. For instance, "Does the system provide the precise information you need?" is modified to "Does the CAS provide the precise information you need? This will ensure the respondents are kept reminded that the system is CAS.

The questionnaires are also attached with a cover letter from the researcher explaining

the purpose of the study and the questionnaire. The questionnaires are divided into two sections. The first section is for the dimension of EUCS while the second section is for the personal information. For the first section, it was divided into 6 parts namely: (1) Part A -Content, (2) Part B - Accuracy, (3) Part C - Format, (4) Part D - Ease of Use, and (5) Part E – Timeliness. The second section is about the personal information of the respondent. These include their gender, education background, position, and computerized accounting course. A five-item scale was used, where 1 = never; 2 = some of the time; 3 = about half of the time; 4 = most of the time; and 5 = always. The instructions requested respondents to circle the response, which best to describe their satisfaction level with the application of computing system.

Data Analysis Method

To analyse the data, the study conducted descriptive analysis and correlation analysis using the SPSS (Statistical Package for the Social Sciences) software for windows. The study also tested reliability of the instruments in order to produce a robust and valid result. Finally, the study employed Structural Equation Modeling by focusing on Standardized Regression Weight to identify the critical factors that contribute most to the end users satisfaction.

RESULTS

Descriptive Analysis

The main research question (RQ1), measure the level of satisfaction among the end users of CAS in private companies. Table 1 presents descriptive analysis (minimum, maximum, mean and standard deviations) were obtained for the interval scaled dependent and independent variable. The minimum for most of the variable is 1.00 and the maximum is 5.00. From the results, it shows the mean for five factors (content = 3.7584; accuracy = 3.7069; format = 3.7361; ease of use = 3.7127; timeliness = 3.5006). The mean for satisfaction is 3.7299. In general, it shows that the users computing are quite satisfied with the CAS. The minimum indicate that the end users are never satisfied and the maximum indicate the end users always satisfied with computerized accounting system (CAS).

Table 1: Descriptive Analysis

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Content	269	1.00	5.00	3.7584	.75612
Accuracy	269	1.00	5.00	3.7069	.76381
Format	269	1.00	5.00	3.7361	.76687
Ease of use	269	1.00	5.00	3.7127	.75819
Timeliness	269	1.00	5.00	3.5006	.74765
Satisfaction (Dependent Variable)	269	1.00	5.00	3.7299	.73212

Reliability Analysis

Table 2 presents the Reliability Analysis, Cronbach's alpha reliability coefficients of the five factors and satisfaction (dependent variable). All the factors were all above 0.7. It seems that this study provides reasonably reliable instruments because the score is higher as compared to original study by Doll and Torzadekh. For example, the content score in Doll and Torkzadeh study is 0.89 as compared to 0.922 in this study; accuracy = 0.91 (0.897); format = 0.78 (0.747); ease of use = 0.85 (0.898); and timeliness = 0.82 (0.812) . In general, the closer the reliability coefficient gets to 1.0, the better.

Table 2: Reliability Analysis

Variable	Alpha (Coefficient)	N=Item
Satisfaction (Dependent Variable)	0.771	7
Content	0.922	9
Accuracy	0.897	7
Format	0.747	7
Ease of Use	0.898	7
Timeliness	0.812	6

Reliabilities less than 0.6 are considered to be poor, those in the 0.7 ranges, acceptable, and those 0.8 good (Sekaran, 2000). It is of evidence that the Cronbach's alpha value for the five factors in this study ranged from 0.747 to 0.922. Therefore, the internal consistency reliability of the measures used in this study can be considered to be good.

Correlation Analysis

A correlation analysis in Table 1 indicates that all the critical factors in EUCS (content, accuracy, format, ease of use, timeliness) that contributes most to satisfaction are positively correlated. Each construct shares greater variance with its own block of measures than with the other constructs representing a different block of measures.

Table 3: Correlation Analysis

	Ease of Use	Content	Timeliness	Format	Accuracy	Satisfaction
Ease of use	1.000					
Content	.730	1.000				
Timeliness	.681	.636	1.000			
Format	.806	.822	.663	1.000		
Accuracy	.750	.792	.621	.790	1.000	
Satisfaction	.823	.806	.701	.830	.776	1.000

Structural Equation Modeling

In order to achieve the second objective of the study which is to examine the critical determinant (content, accuracy, format, ease of use, timeliness) in EUCS that contribute most to satisfaction, advanced statistical technique known as Structural Equation

Modeling (SEM) was utilized.

SEM is a versatile statistical technique that is particularly useful for analyzing nonexperimental data (Byrne, 2001). It has become an increasingly popular data-analytic technique in psychology, counseling, and rehabilitation. Quintana and Maxwell (1999) highlighted several applications of SEM to research, including the use of SEM for testing for mediational relationships, interaction effects, and mean differences; for confirmatory factor analysis and multiple sample analysis; for longitudinal designs; and for handling missing data. Recent innovations have allowed SEM to become a broad data-analytic framework with flexible and unique capabilities. Furthermore, SEM involves an analysis of carefully defined a priori hypotheses about the relationships among both measured and latent variables. It is imperative for researchers to become familiar with this data-analytic technique so that they can use this technique in their research endeavors. It is equally important for practitioners to become familiar with SEM to make judicious assessments of published studies.

Model-Estimation

Analysis of Moment Structure (AMOS) Version 5 was used to estimate the model using SEM with observed variables. Recognition of the reliability of AMOS computations has been established by its increasing use in published studies in reputable journals over the last few years (e.g. Zuroff et al., 1999). Prior to model estimation, each of the multi-item constructs were transformed into totalled scores using equally weighted scales developed from the results of the CFA. This path analytic procedure was used due to the complexity and difficulty of using a full structural equation model. For a similar use of this technique, see Li and Calantone (1998, p. 88) and the references cited by these authors to justify this approach.

Model Testing Results

The structural model was assessed by using established measures and evaluative criteria for model fit. Several goodness-of-fit indices are commonly used to evaluate how well the structural model fits the data. The chi square goodness-of-fit test is one of the most commonly used indices. In SEM, a nonsignificant chi square value is an indication that the hypothesized model has a good fit with the data. The problem with using chi square, however, is that it is hypersensitive to sample size (Ullman, 2001). Because SEM is grounded in large-sample theory, finding well-fitted hypothesized models, where the chi square value approximates the degrees of freedom, has proven unrealistic, leading SEM methodologists to develop additional practical or ad hoc indices of fit.

One approach is to divide the chi square (χ^2) value by the degrees of freedom. According to Carmines and McIver (1981), χ^2/df ratios in the range of 2:1 or 3:1 indicated an acceptable fit between the hypothetical model and the sample data. The most popular alternative measures of fit for SEM analysis, however, are the goodness-of-fit index (GFI), the normed fit index (NFI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). The GFI, NFI, and CFI all have values ranging from 0 to 1; a good fit is indicated by values greater than 0.90 for GFI and NFI and 0.95 and greater for CFI. For RMSEA, a value of 0 is interpreted as an exact fit; values less than 0.05 are a close fit, values between 0.05 and 0.08 are a fair fit, values between

0.08 and 0.10 are a mediocre fit, and values more than 0.10 are a poor fit. Regarding the precision of the RMSEA estimates, AMOS reports a 90% confidence interval around the RMSEA value. MacCallum, Browne, and Sugawara (1996) indicated that a small RMSEA and a very narrow confidence interval suggest good precision of the RMSEA value in reflecting model fit in the population. Finally, Martens (2005) indicated that chi square/df, GFI, and NFI tend to be substantially affected by sample size and number of indicators per factor and do not generalize well across samples. Marten (2005) recommended using CFI and RMSEA as the primary goodness-of-fit indexes.

Table 4 below illustrates results of model fit summary. The results suggest that the data perfectly fit the current conceptual model well, with a χ^2 of 0.343 (df =2, p =0.843), χ^2/df =0.171, GFI =1.000, CFI =1.000, NFI =1.000, and RMSEA =0.073. Moreover, the squared multiple correlation for the predictors of satisfaction is 0.000, which shows that the variables included in the model explain 79.7 per cent of the variance in the outcome variable. In other words, the error variance of satisfaction is approximately 20.3 percent of the variance of satisfaction itself.

Table 4: Model fit Summary

Fit Measure	Default Model	Independence Model
Discrepancy	0.343	1551.464
Degrees of Freedom	2	15
P	0.843	0.000
Discrepancy / df	.171	103.431
GFI	1.000	0.000
Adjusted GFI	1.000	0.000
Normed Fit Index	1.000	0.000
Tucker-Lewis Index	1.000	0.000
Comparative Fit Index	1.000	0.000
RMSEA	0.000	0.618

Hypotheses Testing

The current study proposed to test five hypotheses in identifying the critical factors in EUCS (content, accuracy, format, ease of use, timeliness) that contributes most to satisfaction. Details of the hypotheses are stated below:

H1: Content of Computerized Accounting System (CAS) has significant influence on satisfactory level among the end users toward the CAS

H2: Accuracy of Computerized Accounting System (CAS) has significant influence on satisfactory level among the end users toward the CAS

H3: Format of Computerized Accounting System (CAS) has significant influence on satisfactory level among the end users toward the CAS

H4: Ease of use of Computerized Accounting System (CAS) has significant influence on satisfactory level among the end users toward the CAS

H5: Timeliness of Computerized Accounting System (CAS) has significant influence on satisfactory level among the end users toward the CAS

The results of the hypotheses testing are accessible in Table 2. It can be clearly seen in the table that from five hypotheses stated above, significant relationship was found in all of the proposed hypotheses.

Table 5: Standardized Regression Weights of the Structural Model

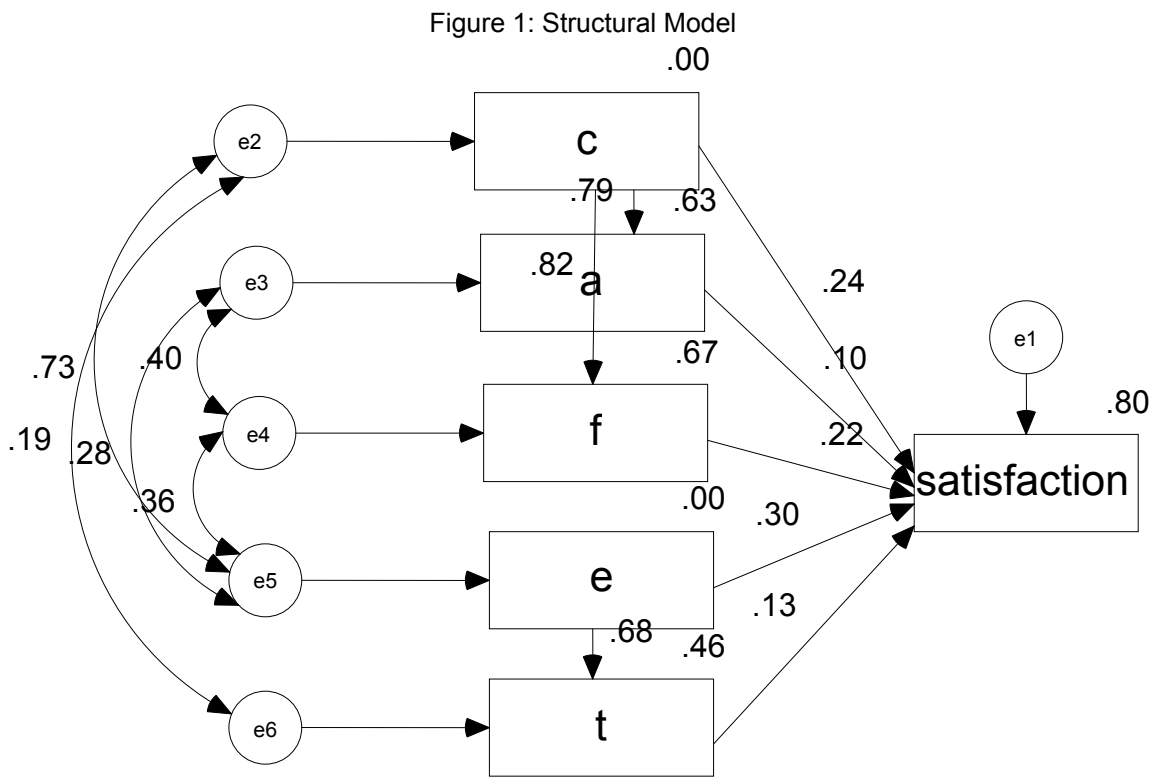| Structural Path		Standardized Path Coefficient	S.E.	C.R.	P	Hypothesis Testing
f	<--- c	0.822	0.035	23.640	0.000	Supported
a	<--- c	0.792	0.038	21.268	0.000	Supported
t	<--- e	0.681	0.044	15.274	0.000	Supported
satisfaction	<--- c	0.235	0.052	4.385	0.000	Supported
satisfaction	<--- a	0.105	0.049	2.051	0.040	Supported
satisfaction	<--- f	0.221	0.056	3.746	0.000	Supported
satisfaction	<--- e	0.304	0.050	5.927	0.000	Supported
satisfaction	<--- t	0.133	0.039	3.351	0.000	Supported

(Note: e=ease of use; c=content; t=timeliness; f=format; a=accuracy)

Hypothesis 1 presents the influence of content of CAS has significant influence on satisfactory level among the end users toward the CAS ($ß=0.235$, C.R=4.385, $p=0.000$). However, it should be noted that content of (CAS) is an important construct to influence satisfactory level among the end users toward the CAS as it has significant influence with format of CAS and accuracy of CAS with p-values of 0.000 (see Table 5). It seems that the end-users are satisfied with output and information that produces by the CAS. Furthermore, the CAS provides them with relevant output and precise report, in tandem with their purpose in finance department.

Next, Hypothesis 2 avers that accuracy of CAS has significant influence on satisfactory level among the end users toward the CAS. Table 5 illustrates that the effect of accuracy of CAS on satisfactory level among the end users toward the CAS was established ($ß=0.105$, C.R=2.051, $p=0.040$). Accuracy seems to be important determinant in EUCS towards CAS. The finance department staffs might feel CAS is the most accurate system to produce financial statement such as Journal, Ledger, Income Statement, Balance

Sheet, Cash Flow Statement, Statement of Changes in Equity and other additional statement that communicate organization performance.

Further, null hypothesis of Hypothesis 3 asserts that the extent of format of CAS has significant influence on satisfactory level among the end users toward the CAS. The comparison of the effect as reflected in Table 5 evinced that format of CAS ($ß=0.221$, C.R=3.746, $p=0.000$) had significant relationships on satisfactory level among the end users toward the CAS. Thus, Hypothesis 3 of format of CAS has no significant influence was rejected. The statements that produce by CAS is easy to understand and well accepted format to internal and external users of financial statements. Those statements will assist users to accurately make a decision especially to board of directors as well as shareholders.

Figure 1: Structural Model

Meanwhile, Hypothesis 4 states that ease of use of CAS has significant influence on satisfactory level among the end users toward the CAS. Inspection of the structural loading of the standardized path coefficients results as exemplified in Table 5 showed significant relationship between ease of use of CAS and satisfactory level among the end users toward the CAS ($ß=0.304$, C.R=5.927, $p=0.000$). Thus, null Hypothesis 4 of ease of use has no significant influence on satisfactory level among the end users toward the CAS was discarded as it has significant influence with timeliness of CAS with *p*-values of 0.000 (see Table 5). The satisfaction towards ease of use seems this system is easy to handle by the users in order to produce report timely even though they are first time users. They probably perceived that CAS is user-friendly to be handled and learned in a short period of time.

Hypothesis 5 demonstrates timeliness of CAS has significant influence (ß=0.133, C.R=3.351, *p*=0.000) on satisfactory level among the end users toward the CAS. Timeliness is important in producing accurate and valuable financial information. It seems this result shown timeliness which influences the level of satisfaction. In other words, finance department staffs believe that CAS processes financial data promptly and provides up to date information without any doubtful when interpreting those financial information. The end-users also feel that CAS will routinely process the raw data when they record it for the first time and CAS will automatically post them from journal to ledger and produce the financial statements accordingly.

CONCLUSION

Concluding Remarks

This research attempted to measure the end-users satisfaction of computerized accounting system (CAS), determine the relationship of five factors (content, accuracy, format, ease of use, timeliness) that influence satisfactory level among the end users toward the CAS. In addition, this paper examines critical factors in EUCS that contributes most to satisfaction. The empirical results of our study can provide support for Doll and Torkzadeh EUCS model. The overall results support all the hypotheses, which related to the factors contributing to the EUCS.

Overall, research question 1(RQ1) and 2 (RQ2) has been answered. The RQ1 indicates that some are almost satisfied with the CAS. From the RQ1 result, the ranking of EUCS factors commences with: format (.830), ease of use (.823), content (.806), accuracy (.776) and timeliness (.701). In addition, the study is able to determine how strong five factors of EUCS influence satisfactory level among the end users toward the CAS. Those factors shown strong relationship and play important role in determining the end-users satisfaction. Moreover, from the hypotheses testing, those factors are critical with ease of use (ß=0.304, C.R=5.927, *p*=0.000), content (ß=0. 235, C.R=4.385, *p*=0.000), format (ß=0.221, C.R=3.746, *p*=0.000), timeliness (ß=0.133, C.R=3.351, *p*=0.000), and accuracy (ß=0. 105, C.R=2.051, *p*=0.040).

Limitations, implications and future research

The number of the sample in this study is relatively small. The small sample size is limited only among Labuan F.T privates companies and cannot be generalized throughout Malaysia. The aspect of time also affected the data collection method; i.e., by using questionnaire. A respondent who is not particularly interested in answering the questionnaire is more likely interspersed to answer the question. This is because some of them are very busy with their tasks and duties. As a result, they did not answer the questionnaire genuinely.

The study demonstrated the EUCS factors in the private companies with the CAS. The study also suggests that content, accuracy, format, ease of use and timeliness must be emphasized to the standardized CAS. Thus, software developers must address rich system features and user friendly system as important design objectives when developing systems in ensuring better output. The researcher should also take into

consideration about the size of the system. The small size system is expected to have a simple feature, user friendly and understandable. As compared to the bigger size system, it will be more complicated and require more time to understand the system. Thus, the differentiation to the perception of end user on overall satisfaction toward the system can be distinguished. According to ACCPAC International, company need to evaluate application performance such as scalability as a product that help to expand as the business grows, how quickly and efficiently the new software can be installed, how simple and easily to be used, the capability to produce the reports that company requires, the capability to test for errors or preventing mistakes, how well the audit trails for errors is implemented and how each confidential functions and reports can be protected through password.

Based on the limitation of the research, the study provides few suggestions for future research. First, future research should consider the sample of study which should cover private companies in Malaysia because the expected result can be generalized for Malaysian end-user computing and a larger sample size would be required to ensure the generalization ability of research. Second, the other data collection method such as in depth interview with the end user computing could be employed. In this study, the only data collection method is that the research is conducted through questionnaire owing to the fact that financial and time are of the essence.

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